ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

Vol. XCIV, No. 12 — PAPER — Thursday, March 24, 1932

Yellow Pine Paper Mill To Be Reopened

Commercial Pulp and Paper Co., the New Owners, Will Enlarge, Improve and Generally Modernize the Plant at Orange, Tex. and Resume Operations as Soon as Possible—Production Will Be Wrappings as Well as Finer Grades of Paper From Rice Straw—C. A. Kiernen Has Been Appointed Superintendent

ORANGE, Texas, March 21, 1932.—Coincident with the recent sale of the paper mill and other properties here of the Yellow Pine Mill Company to the Commercial Pulp and Paper Company, announcement was made by the new owners that the plant will be repaired, enlarged and operations resumed as quickly as possible.

The mill was established about 25 years ago and was in continuous operation until two years ago. The industry of manufacturing paper from yellow pine refuse was built up from a small beginning to an estimated value of more than one million dollars. The price paid for the properties by the new company which has been formed under the laws of Texas was not made public. It was stated by Sumner M. Bump, president of the Commercial Pulp and Paper Company, that when the plant is reopened employment will be given to between 400 and 500 men. Originally the yellow pine paper mill was devoted to the manufacture of wrapping paper.

The new owners propose not only to continue the making of that kind of paper but it will manufacture finer grades, among which will be writing paper and tissue paper, Mr. Bump said. Combined with the wood pulp, in making some types of paper, will be used rice straw, which is obtainable in abundant quantities and at cheap price in this part of the Gulf coast region. The stocks of yellow pine timber for the mill is also near at hand, Mr. Bump said. C. A. Kiernen has been appointed superintendent in charge of production of the mill. Mr. Bump has moved from San Francisco to devote his personal attention to the industry.

Paper Making In Canada Discussed

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., March 21, 1932.—"Paper Making in Canada is comparatively young. But mills are passing out, not because they are really obsolete, but because they are not strictly up-to-date."

This was one of the statements made by Tom Moore, president of the Trades and Labor Congress of Canada, in a public statement on the question of unemployment. He continued: "In the newest mill, that at Liverpool, N. S., the labor of seven-eighths of a man is the equivalent of the labor of four men in a mill only fifteen years old. To compete with the most up-to-date mill, the older mills have to reduce the wages of their employees and earn enough to provide up-to-date equipment, or go out of business altogether.

"The progressive improvement of machinery provides a certain amount of employment of labor by the improved machines. Otherwise, there would be no economy in employing the improved machines.

"Organized labor has no quarrel with rationalization as a principle of progress. Our complaint is that rationalization as presently practised is becoming an anti-social process—that the adoption of more economical methods of production has no higher aim or end than the making of private profits. The improved machines displace more and more labor, and, as machines are not consumers, that means a progressive decrease of consuming power. Thus there is an increasing tendency for rationalization to defeat even its special purpose of profit making.

"That is not as it should be. We believe rationalization should be pursued with the conscious purpose of providing the people with more and lower-cost goods and thus promote an improvement in the standards of living. That implies the adequate sharing with labor of the benefits of rationalization in the form of advancing wages or declining prices, or reduction of working hours, or all three."

Quebec Pulp Mill to Re-open

MONTREAL, Que., March 21, 1932.—The Provincial Government of Quebec has agreed to special concession to permit the re-opening of the Quebec Pulp and Paper Company's plant at Chicontimi. These exemptions include exemption from a water tax of 85 cents per ton of pulp produced for a period of five years and temporary suspension of tax arrears to the amount of $300,000. A representative delegation which waited on Premier Taschereau in connection with the matter told him that these concessions would permit employment for 2,000 men in the production of 40,000 tons of pulp for which a market has been found in Europe. The mill, which has been idle for some years, has a capacity of 600,000 lbs. of groundwood (dry) per 24 hours.

Abitibi Report Shows Satisfactory Condition

Net Profit for 1931, After Depreciation and Depletion, Was $1,301,973—Directors Appropriate $745,500 as Reserve for Depreciation of Investments — Funded Debt Reduced by $845,000—Provincial Paper Funded Debt Also Reduced

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., March 21, 1932—Abitibi Power and Paper Company, Ltd., in its report for 1931, just issued from the head office in Toronto, shows bond and all other interest earned about one and a half times after provision for depreciation and depletion. Abitibi, a leader in the Canadian news print industry, in other respects also reveals a relatively satisfactory position in view of the conditions under which the news print industry operated during the past year. Bank loans were cut from $4,500,000 to $3,400,000 and Alexander Smith, president, states that since December 31, bank loans have been further reduced to $2,150,000. Including $197,205 profit on bonds bought for sinking fund, profit was $5,397,152 after providing for all costs incurred in connection with mills, which are cut down. This compares with operating profit of $7,374,338 for the previous year. Depreciation and repletion on the usual basis of production required $1,293,571 for 1931, compared with $1,666,524 for 1930. Total interest payments were $2,801,608, compared with $2,786,071.

The net profit after depreciation and depletion was $1,301,973. This amount ordinarily would have been applicable to dividends, but the directors deemed it advisable to appropriate $745,500 as a reserve for depreciation of investments. At the end of 1930, $500,000 was appropriated from surplus for the same purpose. Generally, the balance sheet of the company is considered by officials as revealing a satisfactory condition, despite the difficulties which the news print industry have encountered. The funded debt of Abitibi is reduced by $845,000, while that of Provincial Paper, Ltd., is reduced by $100,000 to $4,922,000.

Mr. Smith in his remarks to shareholders says in part: "While conditions in the news print industry show no immediate promise of improvement, which must await a definite up-turn in general business situation, it is well to remember that in comparison with other heavy manufacturing industries, news print consumption is being well maintained. Further expansion is definitely ended for several years to come, and there is an increasing tendency toward lower productive capacity through the elimination of obsolete plants which cannot continue to operate indefinitely under present competitive conditions."

China Clay to be Brought Out

Opening up of china clay deposits in the vicinity of Smoky Falls, north of Kapuskasing, Ont., is indicated as likely to go ahead this year. It is stated that C. McCarthy, original discoverer of the Mattagami River china clay outcrops, is at present at his claims at Long Rapids with a small gang of men erecting camp accommodations and preparing to take out for sample shipments 1,000 tons of the clay as soon as it can be done. Two tractors have been taken in for hauling the clay the seven miles to railhead at Smoky Falls, northern terminus of the Spruce Falls Pulp and Paper Company's railway line, 53 miles north of Kapuskasing. The McCarthy operation is for the Northern Ontario China Clay Corporation, Ltd., organized some years ago, with headquarters in Toronto. It is also stated that J. P. Grant, of Hamilton, Ont., is in Kapuskasing arranging a program of work on properties adjoining the McCarthy claims. According to information obtained, a new syndicate, composed partly of United States capitalists, will proceed with developing lignite showings as well as china clay deposits. A small force of men is to be taken in to build camps and get preliminary work done ready for a more extended program of activity. Mr. Grant also intends to proceed with further tests of the fire clay which over-burdens the china clay in places.

Pine Falls Mill Closed

Despite appeals made by the Provincial Government and business organizations in Winnipeg, the Pine Falls plant of the Manitoba Paper Company, the only news print plant in the prairie provinces, has been closed down for an indefinite period. The little town of Pine Falls is industrially dead. Nothing else sustains it but the big paper mill, a unit in the Abitibi company's holdings, which was erected in 1925. Some 75 of the employees have been given work cutting ties for the Canadian National Railways, and a small corps of workers is being retained at the plant to make shipments to customers from the stock of news print on hand. The Manitoba Paper Company has declined to speculate as to the extent of the period during which the Pine Falls plant will remain closed. All the company needs is orders, officials say, and consequently business conditions will determine how long the plant will remain idle. If an improvement is effected during the coming summer hopes are entertained by the workers that operations will recommence in the Fall.

Notes and Jottings of the Trade

Many printers and wholesale paper dealers attended the meeting of the Toronto Typothetae at the Royal York Hotel on March 8, when R. T. Williams, of the Carrier Engineering Corporation of Newark, N. J., gave the meeting the benefit of his experience and study of air conditioning in press work and the handling of paper.

The sympathy of many in the Toronto wholesale paper trade was extended to T. J. Macabe, of the Buntin Reid Company, Ltd., wholesale paper merchants, in the death of his father, who passed away in Toronto in his seventy-eighth year. Deceased had been prominent in business and Masonic circles in Toronto for many years.

At a meeting of the Toronto Typothetae Sales Club, of which a number of the paper salesmen are members, A. J. Felton, of the Alexander Hamilton Institute, addressed the gathering on the subject of "Creative Salesmanship."

The paper trade was interested in the announcement that a Saskatoon man had made application to establish a job plant and daily newspaper at North Churchill, the Hudson Bay settlement. He has applied to the Manitoba Government, but as business rights in the townsite have not yet been dealt with, the name of the applicant has not been divulged.

The Laurentide Construction Company, 1253 McGill street, Montreal, has been awarded bulk contract for construction of the proposed $50,000 factory building on

St. James street West for the London Paper Box Company, of Montreal. The new factory is to be one story high, with basement, 70 by 80 feet, of mill and brick construction. Work has already been commenced.

The fourth and last of the "Mandalay" wood-block prints, which have been sent out by the Fred W. Halls Paper Company, Toronto, has been distributed to the printing and paper trade in Ontario. It is entitled "Somewhere East of Suez" and is a beautiful piece of direct mail advertising.

W. P. Bennett & Son, Front street, Toronto, extensive dealers in box linings for the paper box trade, have been appointed local representatives of the J. R. Booth Company and will handle that company's news print lines.

Paper Merchants Meet at Washington

WASHINGTON, D. C., March 21, 1932.—The quarterly meeting of the Baltimore and Washington Paper Trade Association was held on March 18, 1932, at the Raleigh Hotel, Washington, D. C.

The meeting was well attended by the Baltimore and Washington merchants and lengthy discussions were held on the reports submitted by the fine and coarse paper representatives of the association who attended the paper trade meeting in New York last February.

The association went on record endorsing the resolution adopted by the National Paper Trade Association, relative to paper mills selling through other than legitimate paper merchants. The recent actions of fine paper mills, paper bag and coarse paper manufacturers selling through brokers and direct were deplored by the members present and steps should be taken to protect the interest of the legitimate paper merchants of the country.

President William N. Schaefer appointed a nominating committee as follows: W. N. Baxter, Chairman, H. R. Stanford, C. W. Andrews, and Thomas N. Price, to report at the annual meeting and election of officers.

The following were appointed on the entertainment committee to make preparations for the meeting: Henry Lengnick, Chairman, Newton Schillinger, George Strott, and John Burke.

Howard Smith Paper Mills Changes

MONTREAL, Que., March 21, 1932.—The Howard Smith Paper Mills, Ltd., have sent out the following notice:

"It is with great regret we announce that H. J. C. Handford has resigned the position of Woodland Manager and Purchasing Agent of the Howard Smith Paper Mills Limited and its associate companies to take up the position of General Manager for Revillon Freres Trading Company, Limited, with headquarters in Winnipeg.

Mr. Handford has won for himself an enviable reputation amongst the trade and leaves to occupy his new post with all good wishes for his future prosperity and happiness.

E. J. Thom has been promoted to the position of purchasing agent and will take over his new duties on April 1. Mr. Thom came to the Howard Smith organization from the Riordon Company in 1920 and spent seven years in their Beauharnois mill. During the last five years he has been in charge of the Pulp Sales Department of the Company, including Canada Paper Company and Canadian Cellulose Company, with headquarters in Montreal and is well known to the trade in Canada and the United States. He will continue to handle the pulp sales.

I. P. Sells Waterpower Properties

International Hydro-Electric System announced today that it has purchased the bulk of the waterpower properties in the United States owned or controlled by International Paper Company, including the important powers on the Hudson River. The properties involved have a total potential capacity of 450,000 horsepower of which 130,000 horsepower is developed, over half in hydro-electric plants and the balance in hydraulic plants. This acquisition increases the installed hydro-electric generating capacity of International Hydro-Electric System to 1,248,000 horsepower, and raises the System to the position of the world's third largest owner of hydro-electrically developed powers. The properties carry with them sufficient revenue from the powers already developed to make them immediately self-supporting and to produce some additional net earnings for dividends on the stocks of the System.

The purchase price was $31,700,000. About 80 per cent of the properties are subject to the First and Refunding Mortgage of International Paper Company. These properties were transferred to International Hydro-Electric Corporation subject to this mortgage and as part payment of the purchase price International Hydro-Electric Corporation has assumed principal and interest on the $16,460,000 outstanding 5 per cent bonds of this issue; and System Properties, Inc., has similarly assumed the $535,000 6 per cent Refunding Mortgage Gold Bonds of Ticonderoga Pulp & Paper Company. Payment of the balance of the purchase price involves no new financing, since the System had the required funds available largely from the sale of Class A stock in September, 1929, and as a result of the issuance of preferred stock in 1930. These funds had been advanced to International Paper and Power Company pending completion of the present transaction.

The transfer of these properties brings near to completion the Paper Company's program for segregating its power and utility operations from its pulp and paper operations. The building up of this affiliated group of integrated power and utility companies facilitates the efficient and economical development and financing of the group's extensive undeveloped power resources. It was in accordance with this program that International Paper and Power Company was formed in 1928 and that International Hydro-Electric System was formed in 1929 and acquired the shares of New England Power Association and Canadian Hydro-Electric Corporation, Limited which the Paper Company then controlled. International Paper Company retains a substantial interest in the power properties through its holdings in the System, which comprise all of the latter's Class B stock and 30 per cent of its common stock, the remaining 70 per cent of the common stock being owned by International Paper and Power Company.

Piercefield Expands Operations

[FROM OUR REGULAR CORRESPONDENT]

PIERCEFIELD, N. Y., March 21, 1932.—Operations have been speeded up at the local branch of the International Paper Company and production is now being carried on within about ten per cent of capacity. Many workers have been recalled to their old positions and it is estimated that nearly 300 men are being steadily employed. Indications are that the improvement will continue and that operations will soon be conducted on a capacity basis.

Demand For Paper Is Spotty In Philadelphia

Despite Seasonal Lull In Trading, Local Distributors Anticipate More Lively Trend With Approach of Spring—Various Standard Grades of Fine Paper Continue Listless—Wrapping Paper Business Mostly Confined to Specialties.

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., March 21, 1932.—With return to spotty trading there is lessened demand for many lines that were more active in the early days of the month. While there is a pause in business, distributors are looking ahead to continuance of the improvement that set in earlier in the month within a short time, in anticipation of Spring needs. Wrapping paper distributors find business confined to specialties and requirements for the coming Easter. Prices in the wrapping paper and bag division are firmer. Fine paper distributors report spotty buying of all lines, while mill agents and representatives of manufacturers selling in wholesale quantities to printers and publishers report a slower pace of business. Fancy writing papers and the better grades of commercial writing, such as bonds, are draggy. Mill representatives report there is a livelier paper market in outlying sections than in the local trade.

Paper Jobbers Hear Simon Walter

Simon Walter, head of S. Walter, Inc., and for more than a score of years member of Philadelphia City Council, spoke to the members of the Philadelphia Paper Jobbers Association at its meeting in the Elks Club on Wednesday. His topic was organization work and its helpfulness in promoting the welfare of the industry. He told the members that they had laid the foundation for constructive merchandising of paper and that organized efforts had already been shown in the stabilization of the bag industry in the Philadelphia territory, the strongest situation being noted in that branch of the trade for the past five years. He complimented the jobbers on their splendid organization work and expressed hopes that they would continue to co-operate with mills and distributors in the reconstruction of business.

Harry Hogg Talks to Paper Jobbers

Harry Hogg, head of the wrapping paper and bag distribution house of the Hogg Paper Company, representing some of the largest mills in the nation, spoke to the paper jobbers at the mid March meeting. He stated the mills he represented were heartily behind the jobbers and in accord with their views and ambitions in constructive trade work and would co-operate fully in the stabilization program which the association had mapped out.

New Members Added to Jobbers Association

At the March session of the Philadelphia Paper Jobbers Association, there was admitted to membership in the organization the Star Paper Company and the Wolf Paper Company, of Chester, Pa., and the Carter Paper Company, of Camden, N. J. Guests at the luncheon session and prospective members were William Cairns and James Gallen, of the Gallen Paper Company. Nathan D. Isen presided and introduced the speakers.

Credit Insurance Bureau for Jobbers

The committee appointed to construct and arrange for the Credit Interchange Bureau of the Philadelphia Paper Jobbers Association was instructed to proceed with organization of that division of the association and to confer with organized credit bureaus of other groups with a view to providing similar credit facilities for the jobbers. The committee, which will work along this line, is Charles Resnick, L. Resnick & Sons; Frank Dubin, Dubin Paper Company; and Ben Kessler.

Enterprise Completes Cellulose Division

Having organized a special department devoted to manufacture of package products of transparent cellulose shredded and roll goods, the Enterprise Paper Company, 3rd and Callowhill streets, is now ready to market these in popular priced packets for resale. The shredded cellulose and rolls are made into resale packets containing white and all colors. They are adapted for packing purposes, or in rolls for decorative designs, and can also be devoted to domestic and commercial uses.

Local Concerns Work on Champion Mills

The General Electric Company, Philadelphia offices, have under direction the installation of the sectional drives on the Pusey & Jones machines which are being installed in the plant of the Champion Fibre Company, at Canton, North Carolina. The sectional drives are now being installed preparatory to opening of operations at the mill on April 15. They are being equipped on the 240 inch book paper machine of the Puseyjones type, the largest and highest speed paper making machine in the world. The Moore & White Company is installing the winder. The Jordans are being equipped with General Electric Synchronous Motors, six of these being used, while the beaters are being fitted with Induction Motors, of the G. E. type.

Dill & Collins Co. Improves Printflex

Having materially improved the quality and surface of Printflex, one of its leading printing papers, the Dill & Collins Company has made this product so that it can be used either as a flat sheet or as a folding mail paper. With the improved surface of this coated paper, better printing is effected and at the same time there is provided a folding coated paper which will take the place of the Dilcol coated paper, formerly the Dill & Collins folding grade. The Printflex has now all the qualities of Dilcol and perfected printing characteristics.

Pusey & Jones to Build Paper Machines for Georgia

The Pusey & Jones Company, of Wilmington, will build the paper machines to be erected in the State of Georgia Research Pulp and Paper Division of the Department of Forestry Mills at Savannah. The mills are to be given over to research pulp and paper work for the State of Georgia, with a view to further development of its paper manufacturing industry and the supply of pulp from the vast forests of pines which now are considered equally adapted for the production of white papers as well as krafts. The paper machines to be erected are of the Puseyjones standard type to produce a sheet 26 inches

maximum width arranged with Fourdrinier part having wire 31 inches wide by 33 ft. long, press part with two sets of main presses, dry part with 9-24 inch diameter, drying cylinders, calender stacks containing five rolls, two drum upright steel slitter and single shaft winder with enclosed worm gear drive unit for each section connected by means of belts on cone pulleys to overhead line shaft located parallel with the machine, machine speed 15 to 150 ft. per minute, through a Reeves change speed device; a combination suction and white water pump with separator tank for the fourdrinier boxes and centrifugal pump for handling the white water from fourdrinier save-all. The laboratory of the research mill will be equipped with complete and latest instruments for making and testing pulp and paper on a small scale and compiling tests and records of semi-commercial operations. Dr. Charles H. Herty, is head research chemist of the division.

Meeting of Mill Superintendents

Having recently decided to hold the annual meeting of the Pennsylvania, New Jersey and Delaware Division of the American Pulp and Paper Mill Superintendents Association in Reading, Pa., on April 16, the committee in charge of arrangements announces that the Abraham Lincoln Hotel has been selected as the place in which to hold the annual convention of the local group. The committee in charge of arrangements is: H. C. Busser, York Haven Paper Company, York Haven, Pa.; Charles L. Ellis, Downingtown Manufacturing Company, Downingtown, Pa.; and Frank Winslow, of the General Electric Company, Philadelphia branch.

Dennis McSweeney Passes On

Long a favorite of associates of the wholesale paper stock and rag division of the Philadelphia paper trade, Dennis McSweeeney, whose death occurred last week, is missed by his many friends here. He was stricken with gangrene following an injury and after a prolonged fight for life passed away. He was 68 years of age and had retired from the trade six years ago. He was long linked with the industry, having joined its ranks in his youth, and for more than fifty years was engaged in business at 241 North Front street, just across the way from the late Daniel I. Murphy, who was a close friend. He was also associated with Charles O'Neill as bookkeeper before engaging in business on his own account.

Dr. James H. Lloyd Dead

Trade sympathies were extended to W. Hendrie Lloyd, sales manager of Curtis Bros., Newark, Del., and former sales manager for the Dill & Collins Company, on the passing of his father, Dr. James H. Lloyd, noted neurologist and member of a family of physicians of four generations. At the time of his death he was Professor Emeritus of Neurology at the Graduate School of Medicine at the University of Pennsylvania. He was former editor of the Medical Journal.

New "Wetkrome" Folder Out

E. J. Lavino & Co., manufacturers of chrome refractories, of Philadelphia, Pa., have just issued a folder describing "Wetkrome," a wet, ready-mixed, ready-to-use chrome ore cement. Wetkrome is properly prepared chrome ore, in the form of a plastic, ready mixed chrome cement produced to supply the needs of plants which do not care to mix dry chrome cement. It possesses all the smoothness and plasticity of the finest forest clays, yet retains the superior refractoriness and desirable chemical neutrality of chrome ore.

Waste Material Dealers Elect Officers

At the annual convention of the National Association of Waste Material Dealers, Inc., held at the Hotel Astor, New York, last week, George Birkenstein, of S. Birkenstein & Sons, Inc., Chicago and New York, was elected president for the ensuing term.

Carlton B. Overton, of Castle & Overton, Inc., who had served the association as chief executive during the past two terms, was the recipient of a hearty vote of thanks from the members for his tireless and beneficial efforts on behalf of the association.

R. W. Phillips, of E. I. duPont de Nemours & Co., was elected first vice president; and J. S. Katz, of the American Metal Company, was elected second vice president. The following were elected directors for two year terms:

George H. Bangs, Nassau Smelting and Refining Company, Inc., New York; Louis Birkenstein, S. Birkenstein & Sons, Inc., Chicago; David Charak, Federal Paper Stock Company, St. Louis; H. H. Cummings, Wm. H. Cummings & Sons, New York; Ezra Frankel, Frankel Bros. & Co., Rochester, N. Y.; Benjamin Friedman, Hammond, Ind.; Harry S. Goldstein, L. Goldstein's Sons, Philadelphia; David Golub, Charles Harley Company, San Francisco; Maurice Goldstein, R. Goldstein & Son, Inc., New York; Albert T. Hicks, Daniel M. Hicks, Inc., New York; J. S. Katz, American Metal Company, Ltd., New York; J. M. Maher, Pennsylvania Wood and Iron Company, Buffalo, N. Y.; Julius Muehlstein, H. Muehlstein & Co., Inc., New York; J. W. Paterson, Hudson Smelting and Refining Company, Newark, N. J., and R. W. Phillips, E. I. duPont de Nemours & Co., Inc., Wilmington, Del.

Waste Paper Institute Meets

David Charak, of the Federal Paper Stock Company, Inc., St. Louis, Mo., was elected president of the Waste Paper Institute for the forthcoming year, at the annual meeting last week in the Hotel Astor, New York. Paul White, of the Gatti Paper Stock Corporation, New York, was elected vice president.

The following committee was appointed to confer with the board mills with the view of ironing out difficulties and misunderstandings developed since the commencement of centralized purchasing by manufacturers in the East: Paul White, of the Gatti Paper Stock Corporation, New York, chairman; Robert F. Graham, of P. H. Graham & Sons Company, Boston; E. Frost, of the Wilson Paper Stock Company, Inc., New York; Robert Blank, of New York, and Joseph Benedetto, of D. Benedetto, Inc., New York.

Jackson Paper Co. Entertains

[FROM OUR REGULAR CORRESPONDENT]

JACKSON, Miss., March 21, 1932.—Some fifty-five members of the printing industry and a number of friends were the guests here Tuesday night last week of H. T. Newell, president of the Jackson Paper Company, at a delightful dinner given at the Robert E. Lee hotel.

After the banquet had been served, a number of prominent visitors made short talks, all in an optimistic vein. Entertainment was provided by Lesses White, noted comedian.

Following this, a three-reel film, depicting the art of paper making, was shown by T. W. McCormack, special representative of the Hammermill Paper Company. The picture proved to be both interesting and educational, showing in detail the great amount of work necessary to produce a finished sheet of paper.

Waste Paper Trade Practice Rules Adopted

Representative Gathering of Dealers and Packers Attends Trade Practice Conference for Waste Paper Industry, Held at Hotel New Yorker, and Presided Over by Commissioner Chas. H. March—Placing of Industry on Higher Plane Hoped For

A Trade Practice Conference for the waste paper industry was held at the Hotel New Yorker, New York, on Monday, March 14. Commissioner Charles H. March presided and associated with him was M. Markham Flannery, Director of Trade Practice Conferences. Mr. H. F. Masman, of the Waste Paper Institute, was elected secretary of the conference and presented the rules, which were taken up individually and after discussion or amendment adopted.

There was a representative gathering of dealers and packers of waste paper in attendance and it was estimated that those present represented interests that controlled from 70 to 75 per cent of the total tonnage of waste paper consumed in the United States by paper and board mills.

The rules have to be approved by the Federal Trade Commission and after approval or revision are sent out to the industry for the consideration of any changes, or so that the industry and individual concerns can subscribe to the rules. It is hoped that the adoption of the Trade Practice rules will place the industry on a higher plane and that it will eliminate some of the practices in vogue which may be considered unfair, wasteful or otherwise bad for the industry and public.

The Trade Practice rules approved and adopted at the conference are as follows:

GROUP I

Rule 1—Willful delivery of an inferior product against a contract for a particular grade of waste paper by means of false packing that cannot be readily discovered, the effect of which is to deceive the purchaser or the substitution of an inferior grade of material against a contract calling for a particular grade without the explicit permission of the purchaser and ultimate consumer is hereby condemned as an unfair trade practice and an unfair method of competition not in the public interest.

Rule 2—The submission of false claims to a supplier when some are not founded on actual mill reports or are not substantiated by authentic debit bills is hereby condemned as an unfair practice.

Rule 3—The issuance of inflated, deflated or misleading price quotations or offers for the purchase or sale of waste paper which are not in line with current market prices for the particular grade in any territory with the intent not to accept proposals received but which is put forward as an inducement to prospective customers and the effect of which is to demoralize the market and disrupt normal competitive conditions is hereby declared an unfair practice.

Rule 4—The issuance of fictitious bills of lading or other documents of title, or the willful inclusion of erroneous weights or other information therein, for the purpose of securing advances of money or full payment when the contract provides otherwise, is hereby declared an unfair practice.

Rule 5—The defamation of a competitor by means of any acts or by means of any false or untrue statement, which questions the business integrity, ability to perform contracts or the credit standing of such competitor, is hereby declared an unfair method of competition.

Rule 6—Commercial bribery in any and all forms is hereby declared an unfair method of competition.

Rule 7—Willfully inducing or attempting to induce the breach of an existing contract, or the interference or attempted interference with the performance of any contractual duty for the purpose and effect of injuring or destroying the patronage, property or business of a competitor is hereby declared an unfair method of competition.

Rule 8—The selling of goods below cost with the intent and with the effect of injuring a competitor and where the effect may be to substantially lessen competition or tend to create a monopoly or to unreasonably restrain trade, is an unfair trade practice.

GROUP II

Rule A—The practice of neglecting or failing to return signed contracts or confirmations of verbal or phone agreements of purchase and sale with the end in view of later relying on the absence of any signed contract or memorandum as ground for repudiation of the agreement is an unfair trade practice.

Rule B—The repudiation of contracts by sellers on a rising market and by buyers on a declining market is equally reprehensible, shattering business confidence, inducing violent fluctuations in price and destroying business stability and should be condemned as an unfair trade practice.

Rule C—The intentional failure to fulfil orders or contracts, except for the Act of God, public enemy, or other unavoidable causes, and the intentional withholding of shipping instructions by the purchaser with the intent of avoiding the contract are hereby condemned as unfair trade practices.

Rule D—The failure of dealers or brokers to give credit for overweights, where credit for overweights has been given by the consumers, is hereby condemned.

Rule E—The taking of unearned discounts is an unfair trade practice.

Rule F—An accurate knowledge of costs is indispensable to intelligent and fair competition and the adoption of correct and uniform method of costs as a means of correcting unfair practices is strongly recommended.

Rule G—The industry approves the practice of handling disputes in a fair and reasonable manner, coupled with a spirit of moderation and good-will and every effort should be made by the disputants themselves to arrive at an agreement. If unable to do so they should agree, if possible, upon arbitration under some one of the prevailing codes.

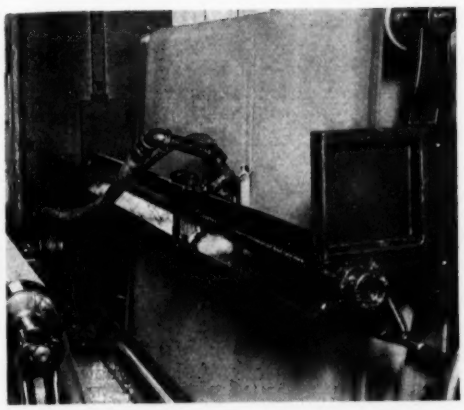
Rule H—A Committee on Trade Practices is hereby created to cooperate with the Federal Trade Commission and to perform such acts as may be proper to put these rules into effect.

Swedish News Print Production

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 23, 1932.—News print production by Swedish mills during the month of January totaled 18,659 metric tons as against 21,611 tons in the previous month and 14,734 tons in January, 1931.

Side-step



3 sources of LOSS!

The Vickery Felt Conditioner keeps felts clean and open, every minute they're on the machine. Felt marks are eliminated. ***Paper rejects are avoided.***

1

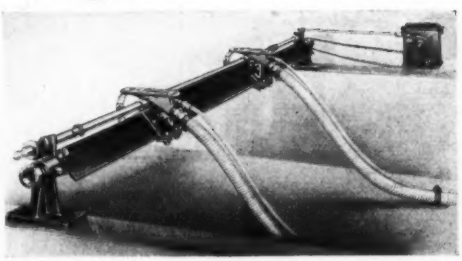
Maintained at peak water-removing capacity, the felts take out the water at the presses—where water removal costs least. ***You avoid excessive steam consumption at the dryers.***

2

Vickery Conditioned felts last longer, usually from 10 to 100%. ***You side-step useless felt expense.***

3

Try a Vickery Felt Conditoner, at our expense.



BIRD MACHINE COMPANY ◆ SOUTH WALPOLE, MASSACHUSETTS

VICKERY FELT CONDITIONER

5283

Boston Paper Trade Association Convenes

Forty-Sixth Annual Meeting and Dinner, Held at Algonquin Club, Proves Highly Successful—Charles A. Esty Elected President for Ensuing Term—Local Paper Market Continues Comparatively Quiet, Despite Frequent Inquiries

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., March 21, 1932.—With an attendance of approximately 125, the forty-sixth annual meeting and dinner of the Boston Paper Trade Association at the Algonquin Club Wednesday evening was highly successful. There was reception from 6 to 6:30. The retiring president, Albert R. Smith, presided.

Seated at the head table were Albert R. Smith, president; Rev. James Gordon Gilkey, D.D., speaker of the evening; T. Harry Casey, Frank B. Cummings, Charles A. Esty, W. J. Raybold, F. Bendel Tracy and Hubert L. Carter.

At the business meeting the following officers were elected:

President, Charles A. Esty; First Vice-President, Frank B. Cummings; Second Vice-President, F. Bendel Tracy; Treasurer, Thomas H. Casey; Secretary, John L. Hobson. Executive Committee—Norman Harrower, Charles W. Fields, W. Edwin Porter, Jr. Membership Committee—W. N. Stetson, Jr., chairman; W. W. Jenks, Chas. A. Young, Royden Loring, R. M. Stone. Arbitration Committee—George W. Wheelwright, chairman; Arthur L. Hobson, Irving N. Esleeck, Arthur E. Ham, Henry C. Thayer. Auditor—George D. Allen.

E. B. Sheaffer, Sheldon Springs, Vt., proposed by Edson R. Lyman; and Warren L. Chace, of Boston, proposed by Willard L. Loud, were elected to regular membership.

Dr. Gilkey Expresses Optimism

The Rev. James Gordon Gilkey, D.D., guest speaker, gave an address, both forceful and entertaining, on "What We Owe Each Other in the Present Crisis." Dr. Gilkey spoke in an optimistic vein, and stressed the thought that we should refrain from circulating bad reports and from discussing calamities that had befallen us, but that we should get down to work.

He noted the similarity of conditions today and those in a period of years after the Civil War, referring to an article in *Harper's Monthly*, reprinted in the current issue. Statements made in that article would hold good today. Dr. Gilkey also referred to the spirit of the pioneers, as the New England settlers who endured many hardships in those early days. He felt that many business men were co-operating to meet the difficulties of the present.

Those Who Attended

Those present were the following:

George D. Allen, Harold A. Allen, George C. Andrew, John A. Andrew, Sumner B. Andrew, Arthur F. Bell, Floyd H. Blackman, John F. Blackman, Gordon Blanchard, John H. Brewer, Wesley W. Binford, Charles J. Brown, Arthur E. Brigham, Arthur M. Burr, Charles A. Burrell, R. B. Case, T. Charles Casey, T. Harry Casey, Frank C. Cate, Hubert L. Carter, Warren L. Chace, Howard E. Chase, Asaph Churchill, Nathan S. Clark, Frank B. Cummings, E. L. Cummings, Dexter D. Coffin, Ralph L. Day, S. D. DeForest, Adna C. Denison, Edward B. Dik, Robert W. Ely, Irving N. Esleeck, Charles A. Esty, R. D. W. Ewing, Arthur F. Fay, Charles W. Fields, Paul S. Fiske, H. C. Fowler, Arthur W. Frank, Rev. James Gordon Gilkey, W. K. Graves, T. C. Greene, A. C. Hall, Clifton S. Hall, Arthur E. Ham, Herbert Ham, James L. Ham, Edgar P. Hay, Alan B. Helffrich, William H. Hilton, Arthur L. Hobson, John L. Hobson, Walker B. Holmes, E. F. Howarth, L. H. Hulett, Ralph L. Humes, Hartley A. Hurlbert, John E. A. Hussey, Walter J. Ingram, Frederick H. Keep, John Kelley, Fred B. Korbel, George P. Lee, Hubert W. Lockhart, Royden Loring, Willard H. Loud, E. H. Little, E. R. Lyman, M. L. Madden, F. W. Main, R. B. McDougall, William J. McLellan, Frank H. Merrill, Wm. J. Millane, Karl F. Miller, Walter L. Muzzey, Charles W. Nelson, Robert Nivison, J. J. O'Brien, R. N. O'Neill, Maurice A. Park, A. E. Pearson, Richard F. Piper, Leon M. Poore, W. Edwin Porter, Jr., Charles S. Proctor, W. J. Raybold, James B. Ramage, C. E. Rice, John E. Roach, R. R. Robinson, William Ross, Wm. C. Ross, E. B. Sheaffer, E. T. Simpson, Albert R. Smith, President, Donald R. Smith, Joseph D. Snell, Jamie W. Stepp, W. N. Stetson, Jr., Edward H. Stone, E. H. Sussenguth, J. G. Swift, J. Gilbert Swift, Jr., Roger B. Taft, A. A. Tanyane, Royal P. Teele, Harry C. Thayer, Charles W. Townsend, F. Bendel Tracy, Glen Underwood, Harold C. Upham, John B. Van Horn, W. Gardner Very, John W. Vivian, Van Rensselaer Walden, Charles G. Wells, Percy E. Weston, H. M. Wheelwright, Jr., John N. Whitney, John R. Whitney, E. L. Wood, Fred L. Wood, Percy D. Wyman, Charles A. Young, C. J. Young, and Leon H. Young.

Paper Demand Light

The wholesale paper market was somewhat quieter the last week than the previous week, although considerable inquiry continues, much of which is expected to develop into orders. The prospect of the use of paper for advertising purposes with a slight degree of improvement in general conditions also continues. In some cases dealers in fine paper report a good week. With new catalogues being prepared some of the dealers are looking forward to the busy season. The demand for wrapping paper has been generally disappointing the last two weeks. There has been a moderate call for box board.

The paper stock market has been dull, with values remaining at practically the same levels.

News of the Trade

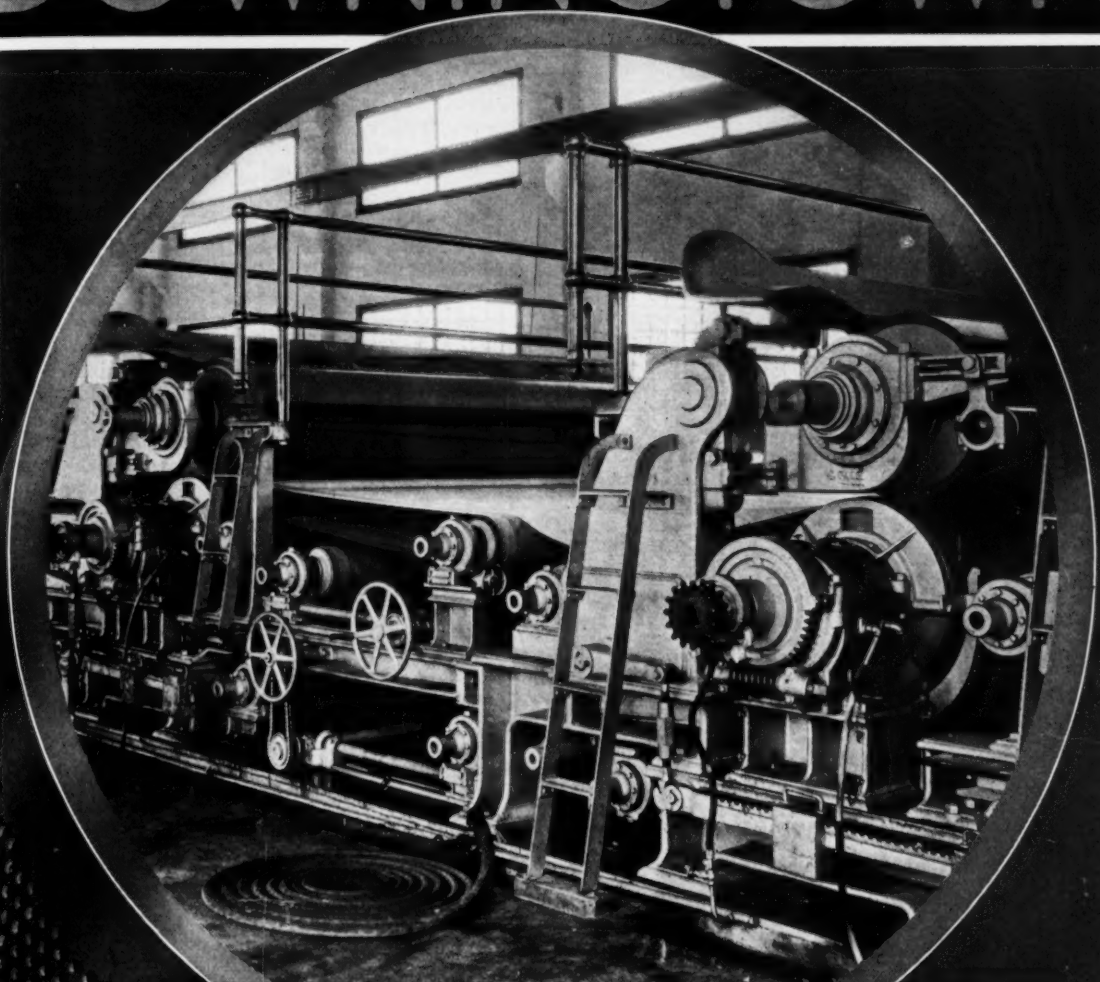
Beeswing Manifold, a new product of the International Paper Company, an extremely moderate price paper made in white and five bright colors, is being stocked by Knight, Allen & Clark, Inc.; John Carter & Co., Inc.; and Carter, Rice & Co. Corp. The new paper is designed to give a maximum number of legible copies and is suitable for many uses.

Storrs & Bement Company has become joint agent with D. F. Munroe Company, of the Eastman Kodapak, a transparent display sheet.

John Carter & Co., Inc., have added to their lines Daily Sales Index, a fine paper made by the Chemical Paper Company, Holyoke, Mass.

W. N. Munroe, Jr., a director of the Groveton Paper Company, Groveton, N. H., has been calling on the local trade, together with Kenneth L. Moses the New England representative.

DOWNINGTOWN



WEYERHAEUSER TIMBER CO.
LONGVIEW — WASH.

THERE are three Downingtown Suction Rolls on this machine, a 30-inch couch, a 28-inch first press, and a 28-inch second press. These rolls have direct drive and rear end suction ▲ ▲ ▲ The rear end suction simplifies the piping and eliminates the necessity of breaking and re-making joints in vacuum piping when putting on clothing ▲ ▲ ▲ The rolls are fitted with trouble-proof, self-aligning, ring-oiling, water-cooled, anti-friction journal type bearings. The Downingtown Mfg. Co., Downingtown, Pa.

Paper Chemistry Institute Addition Planned

Construction of J. A. Kimberly Memorial to be Started When Weather Conditions Permit—J. C. Kimberly, President of Neenah Paper Co., and Vice-President of Kimberly-Clark Corp., Donates $100,000 Towards Structure in Memory of Father

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., March 21, 1932.—Erection of the J. A. Kimberly Memorial as an addition to the Institute of Paper Chemistry at Lawrence College, Appleton, Wis., is to be started as soon as weather conditions permit. Plans have been completed by Chester Walcott, Chicago architect, and bids will be called for about April 1. J. C. Kimberly, president of the Neenah Paper Company, and vice president of Kimberly-Clark Corporation, has donated $100,000 towards the structure in memory of his father, the late J. A. Kimberly, one of the founders of the latter company.

Last year a new building was erected to house the institute but its growth has been so rapid and its functions so extended additional space was necessary. The new structure will be the main administration building, joined by an enclosed passage to the other one. It will be 78 by 41 feet in size, two stories and basement. Beautiful colonial architecture will be followed and Lannon stone will be used in the construction. There will be a high pillared porch and a cupola with a clock.

On the main floor there will be a spacious reading room, a recreational reading room, librarian's office and stock room. Antique pine paneling will be used. The office of Dr. Ben Rowland and his personal research laboratory will be on the second floor, as well as laboratories for microscopic work and study of colloids, two research laboratories and conference rooms. In the basement there will be optical and photographic dark rooms, a large optics laboratory, a research reading room and a librarian's work room. Class rooms, research laboratories and offices will take up the space vacated in the other building.

Swedish Pulp Competition

Pulp mills of Wisconsin are encouraged by the support they are receiving from the public to support their own efforts to preserve their existence against the dumping of Swedish pulp at Great Lakes ports at less than the local cost of manufacture, due to the advantage Sweden and other European countries have in the depreciation of their currency 20 to 35 per cent since they went off the gold standard. The situation has been growing serious owing to the loss of long time customers using large tonnage who are turning to the cheaper European pulp as a means of cutting their own costs and staying in the highly competitive price market.

Badger Paper Mills Profits

Net profits of the Badger Paper Mills, Inc., Peshtigo, Wis., showed an increase for the year 1931, according to the annual reports issued by E. A. Meyer, president. The net for the year was $11,485, after depreciation, interest, income taxes and all charges, as compared with $89,189 in 1930. The company maintained a volume of business during the year that enabled it to operate practically at 100 per cent capacity.

Preferred dividends at the rate of 6 per cent annually were inaugurated May 1, 1931, and regular quarterly cash dividends have been continued. During the year the company also re-purchased $150,000 of first mortgage bonds and are holding them in the treasury in anticipation of sinking fund requirements in the future.

Current assets amounted to $620,454, as compared to current and secured liabilities of $113,031, or a ratio of five and a half to one. Total assets are shown as $1,711,927. Earned surplus December 31, stood at $198,259. The mill produced and successfully marketed during the last year a line of printed and waxed bread wrappers and specialties.

News of the Industry

Organization of the Point Paper Products Company at Stevens Point, Wis., is announced. This is to be a branch of the Worzalla Publishing Company of that city for the wholesaling of paper products and specialties. The line is to include wrapping paper, bags, adding machine paper, gummed tape, napkins, bathroom tissues, wax paper, food pails and containers and paper boxes. The company is placing three salesmen in the field to cover most of the state and plans to give 24-hour service. Several car loads of stock already has been purchased.

The "lower" mill of the Flambeau Paper Company, Park Falls, Wis., has been closed down indefinitely and its re-opening will depend on water supply and business conditions. This is the first shut down since 1895, when it was built, except for repairs and alterations. According to Guy Waldo, general manager, the company has no use for the power from the lower mill because the paper mill is now operating only part time. Present water conditions also are unfavorable towards the operation of the plant.

Frank J. Schneller, vice president, and Agart Wiberg, chemist, of the Gilbert Paper Company, Menasha, Wis., spoke recently at a meeting of the Milwaukee Club of Printing House Craftsmen and the Milwaukee Typothetae. They discussed problems of the paper industry and the paper market.

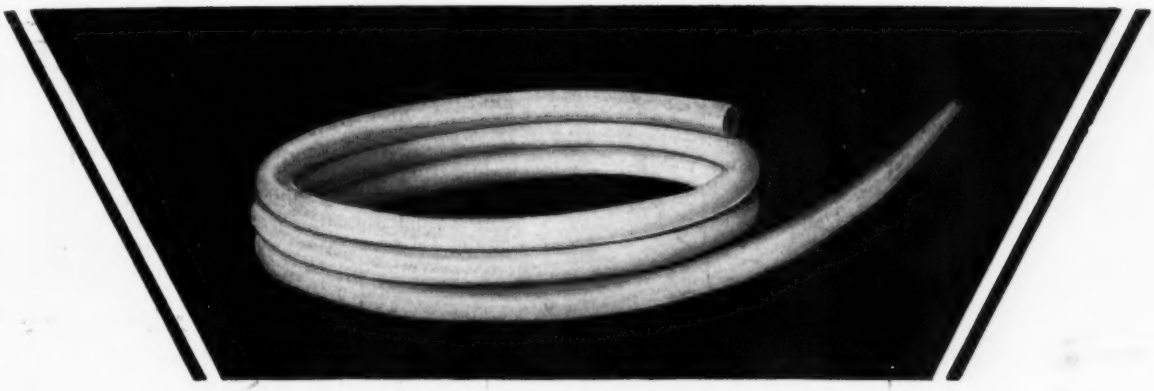
Mrs. Helen K. Stuart, Neenah, Wis., a daughter of the late J. A. Kimberly, one of the founders of the Kimberly-Clark Corporation, is a candidate for Mayor of Neenah, Wis., the leading paper mill city of the Fox River Valley. She is completing a term as a member of the city council and is active in conservative Republican politics of the state.

Harry F. Menzel, of Oshkosh, Wis., died recently following an emergency operation for appendicitis at his home city. He was 35 years old. Mr. Menzel was a member of the Wisconsin Industrial Commission, with headquarters in the Fox River Valley, and devoted most of his time to paper mills. He was also secretary of the Fox River Valley and Lake Shore Safety Council and was assisting in preparations for its big annual gathering at Appleton, Wis., in May.

Oregon Pulp & Paper Co. Busy

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., March 21, 1932.—The Oregon Pulp and Paper Company plant at Salem, Ore., has found it necessary to have a seven day shift on two of the large machines. Karl Heinlein, manager, announced that large orders for glassine paper, has made the increase necessary.



With or Without Soft Nozzle—
GOODYEAR SANITARY HOSE
Leads All

The most useful and economical hose around any mill — say those who are using it — is this Goodyear "Style M" Sanitary Hose.

It stands dragging over brick or concrete. It stands being run over by trucks, and continued flexing and bending. It is toughly resistant to acids and other process liquids. It can be used for either steam or water.

If you order it *with the soft nozzle built in*, you will find it a valuable protection against damage to screens.

A fine hose, capable of long, dependable service in your hardest mill usage, Goodyear "Style M" Sanitary Hose is recommended by the G. T. M. — Goodyear Technical Man. The G. T. M.'s recommendations on Belting, Hose, Packing and other Mechanical Rubber Goods are saving money in many mills. You can get in touch with him simply by writing to Goodyear, Akron, O., or Los Angeles, Cal.

TUNE IN: Goodyear invites you to hear John Philip Sousa and his Band . . . Arthur Pryor and his Band . . . Revellers Quartet and Goodyear Concert-Dance Orchestra . . . every Wednesday and Saturday night, over N. B. C. Red Network, W E A F and Associated Stations

THE GREATEST NAME IN RUBBER

GOODYEAR

BELTS • MOLDED GOODS • HOSE • PACKING

Delaware Valley Section Discusses Bleaching

PHILADELPHIA, Pa., March 21, 1932.—A well attended meeting of the Delaware Valley Section of the Technical Association of the Pulp and Paper Industry was held at the Engineers Club in Philadelphia under the chairmanship of W. R. Maull, vice president of Dill & Collins.

R. S. Hatch Speaks

R. S. Hatch, vice president of the Pulp Bleaching Corporation, discussed modern trends in the bleaching of wood pulp. Bleaching was originally done in a beater, batches of pulp being handled in this way and no particular consideration was given to the chemical nature of the impurities. Nearly all improvements dealt with mechanical details. Later bleaching was done in ordinary tanks but not successfully due to the slowness of action.

The first successful type of bleacher was of the Bellmer type, of somewhat similar design to the washer-beaters but capable of handling pulp at high density and high speed. The work of R. B. Wolf at the Burgess Sulphite Fibre Company was directed to improving pulp quality and strength and to handling pulp of 10 to 12 per cent consistency at high speed. This work resulted in the high density bleacher of the horizontal type, equipped with a screw conveyor and lined with bleach resisting tile. Such bleachers could circulate pulp at 30 per cent consistency and produced a pulp of excellent color, strength and cleanliness. Such a bleacher was installed at the Newton Falls Paper Company's mill in Northern New York.

The next bleacher was of a vertical cylindrical type within which was another cylinder up which pulp was moved by a screw conveyor. Such a unit held about six tons and required 6 to 10 hours for a bleaching cycle.

Following this the mechanical details of the process were changed to provide for a two stage action so that any colored materials could be washed out and less bleach used.

Chemical Phases of Bleaching

The most recent development gives consideration primarily to the chemical phases of bleaching. The chlorinated products of bleaching are quite soluble in alkaline solutions. Work started about four years ago resulted in the design of a special bleacher for using hypochlorite at low density. This resulted in the addition of a large quantity of gas in a short time and no gas escaped. The capacity of a bleach unit is 6 tons at 3.5 per cent consistency. The entire content of stock is turned over in less than one minute. Twenty-five horsepower is required for circulation and 15 to 25 pounds of chlorine per minute are used.

Latest Installation at Longview

The latest installation is in the pulp mill of the Weyerhaeuser Timber Company at Longview, Wash. This process is not considered to be bleaching but rather a chlorination whereby liquid chlorides are washed away. The process is essentially as follows: The amount of chlorine needed to produce a good white pulp in a single stage is predetermined, then about one-half of this is used to produce the first stage. This produces hydrochloric acid and must be neutralized with lime (pulp turns brown at this point). The pulp is now ready for the oxidation process in which additional chlorine is used, but only in sufficient quantity to produce a white pulp. The net chlorine consumption runs about 60 to 70 per cent as compared with single stage operation and produces better pulp.

Also Applicable to Alkaline Pulps

The same process is applicable to alkaline pulps but the lignin does not chlorinate as readily and the cost is somewhat greater. Kraft requires more careful operation because of impurities. It was impossible to bleach kraft under the old process without losing the test. In answer to E. N. Wennberg of the Continental Diamond Fiber Company, Mr. Hatch stated the pH of hypochlorite should be alkaline, about 8.5 and must be kept above 7.0.

Dr. H. C. Schwalbe of Dill & Collins, inquired as to yield in kraft bleachability. Mr. Hatch said this might run 90 to 93 per cent. The alpha content is about 83 to 84 per cent.

In answer to Doctor Schwalbe's questions concerning the reasons for using low densities in the new process Mr. Hatch pointed out that high pulp concentrations would be subjected to corresponding high concentrations of acid which would weaken the fiber. In the present process the acid concentration does not exceed 4 pounds per thousand gallons and this produces no deleterious effects.

Answering Mr. Maull, the speaker said that the first stage took about one half hour with lime then added and allowed to act for 15 minutes. The entire cycle is about two hours including pumping and washing.

Color Analyzer Demonstrated

Following Mr. Hatch's talk E. J. Albert of the Thwing Instrument Company introduced Doctor Razek and Mr. Mulder of the University of Pennsylvania who described and demonstrated their color analyzer. Doctor Razek gave an interesting talk on the theory of color and its physical and physiological aspects.

The photoelectric cell and its possibilities was discussed. It was pointed out that the tubes used in the set last about 1,000 hours. Accuracy of the instrument is not affected by tube replacement. The measurement of color is not affected by the glass or nature of the paper surface. It is also possible to measure the colors of dye solutions and to predetermine how much of each dye must be added to a mixture to produce a desired color.

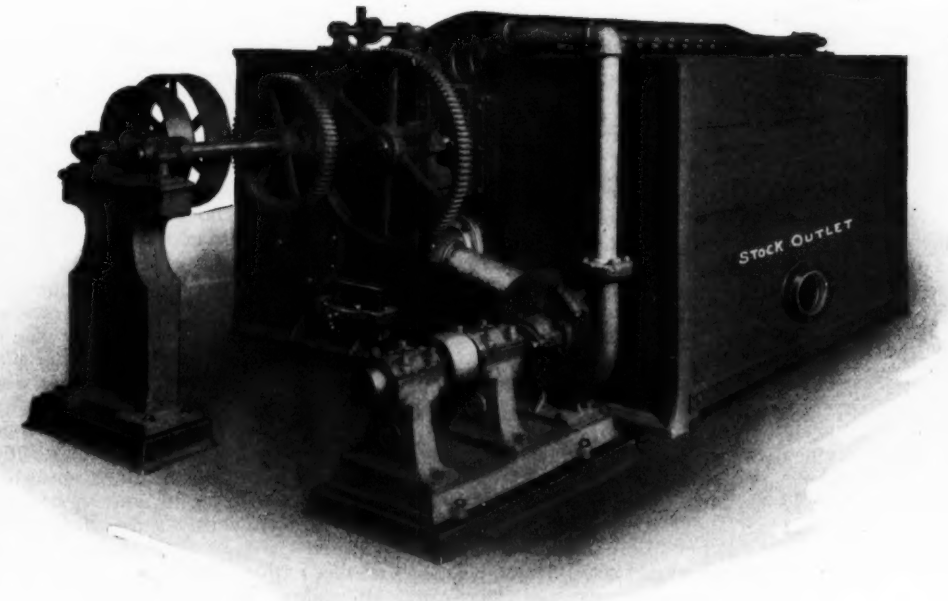
Canadian Power & Paper Investments

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., March 21, 1932.—The annual report of Canadian Power and Paper Investments, Ltd., shows an increase in revenue for the year ending December 31 last, at $336,941, as against $329,607 in 1930. A loss of $2,822 on sale of securities reduced earnings for the year to $334,119, which figure represents an increase of $10,180 over earnings for the previous year. Expenses and taxes were lower, but interest was higher than in 1930.

During the year the company purchased and cancelled $100,000 of its 5 per cent debentures. Interest charges were accordingly reduced, while a profit of $34,090, arising from the purchase and cancellation of the debentures resulted in net earnings for the year amounting to $118,111 as against $151,975 the previous year. After deducting preferred dividends of $104,166 there remained a surplus applicable to the common shares of the company of $13,944, or $0.14 per share as against $0.27 in 1930. Profit and loss balance now totals $559,451 as against $547,367.

A Revolutionary Announcement to the Paper Industry



The "M & W" Filter and Save-all (Patented)

for

Removing Water from Cylinder Molds, Used for Filters, Save-alls, and Pulp Thickeners

Booklet upon request

THE MOORE & WHITE COMPANY

PAPER MILL MACHINERY

15th STREET and LEHIGH AVENUE PHILADELPHIA, PA.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Dubuque, Iowa—The Maizewood Products Corporation, Railroad avenue, manufacturer of wallboard products, using cornstalks as raw material, is pushing work on the rebuilding of mill at Railroad avenue and Salina street, destroyed by fire a number of weeks ago, and expects to have the unit ready for occupancy in the near future. It will be one and four-story, 60 x 500 feet, estimated to cost close to $125,000, including equipment. A contract recently has been let to the Montgomery Elevator Company, Court street, Des Moines, Iowa, for elevators; general contract to be carried out by W. L. Yokom, Inc., Roshek Building, Dubuque; structural steel is being furnished by the Mississippi Valley Structural Steel Company, Big Bend Road, St. Louis, Mo. A. Byron Hunicke is plant engineer.

Pawtucket, R. I.—The Metz Paper Company, Tweed and Harris streets, has arranged for an increase in capital from $200,000 to $250,000, for general expansion. The company has recently been carrying out an extension program at plant, consisting of a one-story unit, 70 x 95 feet, to cost over $20,000, with equipment. It will be placed in service soon.

Kalamazoo, Mich.—The Sutherland Paper Company is said to be operating on good capacity schedule at its local mill, giving employment to close to normal working quota.

Kansas City, Mo.—Shakelford Wall Paper Company, Tenth and McGee streets, is said to be planning early rebuilding of portion of storage and distributing plant, recently damaged by fire. With other occupant of building, the total loss aggregated over $75,000.

Cleveland, Ohio—The Industrial Rayon Corporation West 98th street and Walford avenue, has awarded a general contract to the George A. Rutherford Company, 2725 Prospect avenue, for the first unit of its proposed expansion program, consisting of a one-story structure, 80 x 430 feet, to cost close to $150,000, including equipment. Work will be placed under way at once. As recently reported in these columns, the company proposes to begin manufacture of new cellulose transparent wrapping material, and it is understood that new unit will be adapted for that service. Other buildings are projected for a later date, with cost close to $200,000, exclusive of amount noted. Christian, Schwarzenberg & Gaede Company, Union Building, Cleveland, is architect and engineer. H. S. Rivitz is president.

New York, N. Y.—First National Box Corporation, recently organized by Frank Vioello, 800 East 12th street, Brooklyn, N. Y., and associates, with capital of $10,000, is said to be planning operation of a local plant for the manufacture of paper boxes and containers. William Stinsman, 193 Thirty-second street, Brooklyn, is interested in the new company.

Brooklyn, N. Y.—The Albert Paper Box Company, Harrison place, manufacturer of paper and cardboard boxes and containers, has arranged for an increase in capital from $60,000 to $150,000, for general expansion.

Omaha, Neb.—The Omaha Paper Stock Company, 816 South 18th street, has work under way on remodeling and improving storage and distributing plant, following recent fire loss, and expects to complete work at an early date. A. H. Brodkey Company, Saunders-Kennedy Building, is general contractor.

Kaukauna, Wis.—The Thilmany Pulp and Paper Company, Kaukauna, is placing final miscellaneous awards for work in connection with new one-story mill addition, 135 x 200 feet, previously referred to in these columns, and will proceed with erection at once. Contract has been made to the Lathrop-Hoge Gypsum Construction Company, Milwaukee, Wis., for roofing of structure. It is understood that the new building will be used for paper bag production. General contract is being carried out by the Permanent Construction Company, Milwaukee.

New York, N. Y.—The A. B. Massa Paper Corporation, 358 Fifth avenue, has arranged for an increase in capital from $25,000 to $50,000 for general operations and expansion.

Kalamazoo, Mich.—Kalamazoo Vegetable Parchment Company, Kalamazoo, is reported to be holding to good production basis, with employment of large working quota.

Winnfield, La.—Julian Bernstein, secretary and manager, Winnfield Chamber of Commerce, Winnfield, is said to have negotiations under way with a paper manufacturing company for the construction and operation of a local mill. Name of company is temporarily withheld.

New Haven, Conn.—The Box Shop, Inc., recently organized with a capital of $50,000 by H. A. Behre, New Haven, and associates, is said to be planning early operation of local plant for the manufacture of folding cardboard boxes and containers.

Chicago, Ill.—The Morris Paper Mills, Inc., 33 North La Salle street, manufacturer of paper boxes and containers, has arranged for a change in capitalization from $333,400 and 10,000 shares of stock, no par value, to 10,000 shares of stock, no par value.

Old Hickory, Tenn.—Du Pont Cellophane Company, Old Hickory, manufacturer of cellulose transparent wrapping materials, has resumed production at local mill on a three eight-hour shift daily schedule, replacing a four six-hour shift basis, giving more work to a number of operatives. It is proposed to hold to new schedule for an indefinite time.

Chicago, Ill.—The General Fiber Company, 2279

South Union avenue, has arranged for a change in capitalization from $1,000,000 to $250,000.

New Incorporations

New York, N. Y.—The Berles Carton Company, Inc., has been incorporated with capital of 500 shares of stock, no par value, to manufacture paper boxes and cartons. Company will be represented by Joseph Olshansky, 274 Madison avenue, New York, attorney.

New York, N. Y.—The Thomas Stern Paper Corporation has been incorporated with a capital of 620 shares of stock, no par value, to deal in paper and paper products. The incorporators are Lindsay L. Baird and Thomas R. Stern, 21 East Eighty-seventh street, New York. Last noted heads the company.

St. Louis, Mo.—A. Kimball Company of Missouri, Inc., has been incorporated by Edward McCalley, 1325 Temple place, St. Louis, to manufacture paper tablets, tags, etc., operating a general converting plant.

Los Angeles, Cal.—Acme Envelope Company, 8405 South Hoover street, has been organized by Harold S. Boerstler, 8211 South Hoover street, and associates to manufacture envelopes and other paper goods.

New York, N. Y.—Cellofiber Products Corporation has been incorporated with a capital of 100 shares of stock, no par value, to manufacture and deal in fiber and paper products. Company will be represented by Joseph D. Shifrin, 2 Columbus circle, New York, attorney.

New York, N. Y.—The Ke-Rosh Paper Company, Inc., has been incorporated with capital of 200 shares of stock, no par value, to deal in paper and paper products. Incorporators include J. Stuart Scharf, 150 Nassau street, and Max Gonicberg, 3040 Holland avenue, Bronx, New York.

New Olivite Pump Leaflet

Oliver United Filters, Inc., of 33 West 42nd street, have just issued a new leaflet, entitled "The Solution of Your Acid-Pumping Problem," which features their new developments in the acid pump construction, which they have followed with success for some years past.

The pump is now made in a modified design, providing for circulating solution on the packing gland, in place of grease, if grease is not desired. The shaft of the pump is anchored substantially to the impeller by a longitudinal tie-rod extending through its axis, and the protecting sleeve on the shaft is attached more substantially than ever.

The roller bearings on the shaft are provided with ample oil chamber lubrication, and the arrangements for adjustment of packing and packing glands are still further simplified for the convenience of the operator. These pumps are being used in a wider and wider range of industrial application, while large users, as indicated on the leaflet, are constant purchasers of re-order pumps for their own needs.

Bagley & Sewall Report New Business

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., March 21, 1932.—Announcement is made by the Bagley & Sewall Company of the receipt of an order which will take several weeks to complete. The filling of the order will not result in an enlargement of the working force although it is expected that those now employed will be kept busy for some time. The name of the concern placing the contract was not disclosed.

Obituary

Charles Lewis Monson

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., March 21, 1932.—Charles Lewis Monson, for many years associated with the Zellerbach Paper Company at Portland, Ore., died March 15, following a major operation.

Mr. Monson was born September 3, 1883, in San Francisco. He was deeply interested in athletics and was an amateur baseball player of distinction. He was a member of the Washington Masonic Lodge and the Portland Elks Lodge. He was the grandson of pioneers of Oregon and California.

Mr. Monson is survived by his widow, Nellie Pace Monson; three sons; his mother; a brother, and four sisters.

Michael J. Smith

HUDSON FALLS, N. Y., March 21, 1932—Michael J. Smith, for many years identified with the paper industry in this section, died during the past week at his home in Arlington, N. J. During the period he resided here he was superintendent of the Howland Paper Mill and later on he left that concern to take over the management of the paper mill at Hadley.

About twenty years ago he removed to Lancaster, Pa., to take a responsible position with the DuPont Company and he also managed the plant at Hopewell, Va. He was connected with the Arlington, N. J., plant at the time of his death.

News Print Production for February

Production of news print in Canada during February 1932 amounted to 158,543 tons and shipments to 150,951 tons, according to the News Print Service Bureau. Production in the United States was 87,157 tons and shipments 86,638 tons, making a total United States and Canadian news print production of 245,700 tons and shipments of 237,589 tons. During February, 20,931 tons of news print were made in Newfoundland and 1,024 tons in Mexico, so that the total North American production for the month amounted to 267,655 tons.

The Canadian mills produced 21,157 tons less in the first two months of 1932 than in the first two months of 1931, which was a decrease of 6 per cent. The output in the United States was 8,424 tons or 4 per cent less than for the first two months of 1931, in Newfoundland 3,737 tons or 8 per cent less, and in Mexico 126 tons less, making a total decrease of 33,444 tons or 6 per cent.

Stocks of news print paper at Canadian mills totalled 61,195 tons at the end of February and at United States mills 32,925 tons, making a combined total of 94,120 tons compared with 86,009 tons on January 31.

S. & W. Ships to Gilman Paper Co.

The Smith & Winchester Manufacturing Company, South Windham, Conn., recently shipped to the Gilman Paper Company of Vermont complete machinery for making the latest type of pasted multi-wall bags. The order included 1 heavy duty tuber; 1⅓ bbl. heavy duty patched bag bottomer; 1⅓ bbl. valve bag bottomer for pasted multi-wall bags; complete with the necessary Universal cross paster attachments and conveyors to take the finished bags away and deliver them at reduced speeds.

New York Trade Jottings

George D. Bearce, mill manager of the Dalhousie plant of the New Brunswick International Paper Company, and his wife, returned to Dalhousie on Sunday night after spending some time in New York.

* * *

Thomas Stern Paper Corporation has been chartered under the laws of the State of New York with a capital stock of 620 shares common. Feldman & Streicker, of 154 Nassau street, New York, were the attorneys.

* * *

Shawinigan Products Corporation, an important American subsidiary of the Shawinigan Water and Power Corporation, of Montreal, Que., has leased large office space on the thirteenth floor of the Empire State Building at 350 Fifth Avenue, New York.

* * *

There was a satisfactory attendance at the regular weekly luncheon and meeting of the Eastern Division of the Salesmen's Association of the Paper Industry, at the Shoreham Restaurant, New York, last Tuesday. A round table discussion of prevailing business conditions featured the proceedings.

* * *

L. J. Parant, vice president and general manager of the St. Croix Paper Company, of Woodland, Maine, and his wife, are spending several days in New York, following their return from the West Indies, where Mr. Parant had been recuperating after a serious operation last January. His many friends will be pleased to learn that he is making a splendid recovery.

* * *

Ruling on an appeal from a decision of the United States Customs Court, Justice Hatfield, in the United States Court of Customs Appeals, has sustained duty assessment at 30 per cent on stencil paper claimed by the importers, the Duratex Stencil Company, to be subject to 5c a pound and 15 per cent, as surface coated. Justice Hatfield's opinion stresses the fact that the paper involved was made by means of mixing so-called coating solution with it so that the solution became an integral part and no surface coating was necessary. As a result, he held the paper to be properly classified at 30 per cent as not specially provided for.

Cleveland Paper Co. Elects Officers

CLEVELAND, Ohio, March 21, 1932.—At the regular stockholders meeting of the Cleveland Paper Company, held Saturday, March 19, the following were elected officers, A. H. Seyler, president, John H. Walsh, vice president, Orlin Herthneck, treasurer, A. W. Redman, secretary.

The above officers also constitute the board of directors with the addition of Lloyd D. Hunter, who will also serve as the company's chief counsel. At this meeting the resignation of J. P. Peacock, former secretary-treasurer, was accepted effective at once.

Mr. Seyler also announces the following appointments to the sales staff, H. W. Bratschi, senior salesman in charge of the Akron office; B. E. McCauley, local sales; and John P. Fox, formerly with Louisville Paper Company, local sales. Mr. Bratschi, who succeeds Mr. Peacock in the Akron territory, has been a resident of that city for fifteen years, devoting most of his time to the printing business. For the last few weeks Mr. Bratschi has spent considerable time in the company's offices and warehouses.

Post Office Wants Paper Supplies

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 23, 1932.—Bids are to be opened by the Post Office Department on April 12 for stationery supplies for the fiscal year beginning July 1. Among some of the items of interest to the paper trade on which bids will be opened are included:

2,400 rolls white paper tape.
9,000 rolls No. 1 kraft sealing tape paper.
109,000 rolls white computing machine paper.
18,000 dozen white paper tablets.
177,000 sheets 4 pound black carbon paper.
1,985,000 sheets 7 pounds same.
2,451,000 sheets heavy weight same.
666,000 sheets medium weight same.
3,000,000 printed facing slips.
1,000,000 manila tag board cards.
1,523,000 plain white index bristol cards.
1,000,000 examination cards.
1,300,000 white index bristol cards.
433,000 blank guide cards.
55,000 pearl gray pressboard guide cards.
262,000 plain manila folders.
144,000 pieces newsboard, chipboard or strawboard.
180,000 pounds buff color blotting paper.
225,000 rolls toilet paper.

Ask Russian Pulpwood Embargo

WASHINGTON, D. C., March 23, 1932.—A delegation of members of Congress, and representatives of a number of trade organizations called upon Secretary of the Treasury, Mills, last week protesting against the importation of Russian pulpwood and other commodities and asking that an embargo be placed on these importations.

Secretary Mills told the delegation that his Department does not feel that it has the right under the law to embargo these importations and repeated what he has already said a number of times that each separate shipment will be taken up on its own merit. He said that if Congress wants to embargo all imports from Russia that it will have to pass a law to that effect. He stated that under the present law the Treasury Department does not feel that it has authority to do this. Statement was made by several of the members of Congress that bills to this effect will be introduced. As a matter of fact they already have been introduced in both Houses of Congress but no action has been taken on any of them.

Meyers-Mesco Regulator Installation

In an article covering the installation of the Meyers-Mesco Regulator in the plant of the S. D. Warren Company, Cumberland Mills, Maine, which appeared on page 48 of the March 10th issue of the PAPER TRADE JOURNAL, several unfortunate typographical errors occurred.

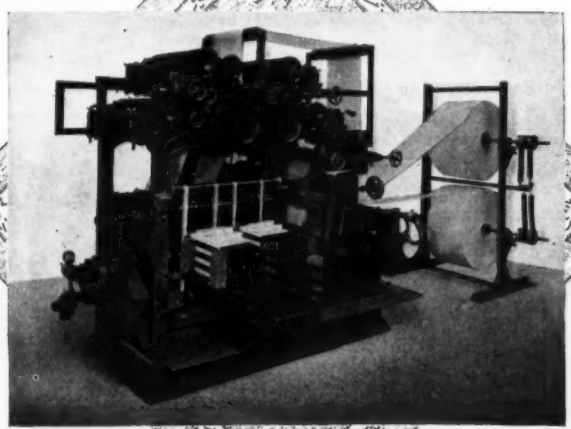
In the seventh line of the first paragraph, the article said: "So that the heating process, etc." This should have read: "So that the beating process, etc."

In the next to the last line of the third paragraph the article said: "Soda pulp is pulped, etc." This should have read: "Soda pulp is pumped."

The first sentence of the last paragraph said "The installation was guaranteed to maintain density within 15 per cent above or below a given average density, that is, the density must not vary more than a total of 3 per cent.

This should have read as follows: "The installation was guaranteed to maintain density within .15 per cent above or below a given average density, that is, the density must not vary more than a total of .3 per cent.

Here Is Your Equipment For The Production Of *Quality* Paper Napkins!



WALDRON *Centennial* NAPKIN MACHINE

Producing more than 500 completed napkins or serviettes per minute, the modern Waldron Combination Machine represents a worthwhile investment to converters and paper manufacturers alike. All operations including printing in one, two or three colors, embossing, quarter folding, sheer cutting, counting and delivery are performed in sequence. No experienced labor required to operate the Waldron Napkin Machine for it operates entirely automatically. The ever increasing market for paper napkins and serviettes offers new avenues for profits.

Waldron machines embody every mechanical improvement. The "Centennial" Napkin Machines provide absolute precision, peak production and lowest operating cost. Complete production of paper napkins can be secured without the necessity for utilizing extensive floor space for this new Waldron machine is constructed to save on floor space. Production executives should secure a copy of the new Waldron Catalog No. 108, which completely describes and illustrates this most efficient Combination Machine. Write today for your copy without obligation.

JOHN WALDRON CORPORATION

Main Office and Works: NEW BRUNSWICK, N. J.

NEW YORK
122 East 42nd St.

CHICAGO
201 North Wells Street

PORTLAND, ORE.
414 Lewis Bldg.

WALDRON

Paper Converting Machinery

PAPER TRADE JOURNAL
ESTABLISHED 1872

Published at 34 North Crystal St., East Stroudsburg, Pa. Executive and Editorial Offices, 10 East 39th St., New York, N. Y.

Henry J. Berger
Editor

Ronald G. Macdonald
Editor Technical Section

Herbert J. Laughton
Associate Editor

Thomas J. Burke, C. A.
Editor Cost Section

Reginald Trautschold, M. E.,
Power Engineering Consultant

Lynne M. Lamm, *Washington Correspondent*

Price, Per Copy, 10 Cents United States, Per Annum, $4.00
Canada, including tax, $7.50; Foreign Countries in Postal Union, $6.00

Member Audit Bureau of Circulations

Vol. XCIV New York, March 24, 1932 No. 12

FOREIGN PAPER TRADE

Exports of paper and paper products from the United States in January were valued at $1,327,459, representing a 35 per cent decrease compared with the corresponding month in 1931, and a 13 per cent decrease compared with the preceding month, according to the Paper Division of the Department of Commerce. Papeteries (fancy writings) were 52 per cent higher, paper hangings (wall paper) and greaseproof and waterproof papers, each 34 per cent, filing folders, index cards and other office forms, 23 per cent and overissue and old newspapers slightly higher, compared with the preceding month.

All other exports declined when compared with those of December, 1931, the heaviest loss taking place in book paper, not coated, which was 50 per cent lower, followed by wall board of paper or pulp which declined 45 per cent, while cash register and adding machine paper, paper towels and napkins, box board (paper board and straw board) and blotting paper registered losses from 33 to 35 per cent; vulcanized sheets, strips, tubes and rods, sheathing and building paper, fiber insulating lath or board, tissue and crepe paper, other paper board, cover paper, news print and boxes and cartons from 20 to 30 per cent, envelopes, 18 per cent, bristols and bristol board, paper bags and other writing paper, each 13 per cent, and only a slight decrease occurred in surface coated paper, toilet paper and wrapping paper.

Compared with the corresponding month in 1931, the following severe losses are noted: Paper hangings, 80 per cent, blotting paper, fiber insulating lath or board, sheathing and building paper, cover paper, each 57 per cent; book paper, 55 per cent; wall board of paper or pulp and towels and napkins, each 50 per cent; surface coated papers, boxes and cartons, tissue and crepe paper, toilet paper, box board (paper board and straw board), bristols and bristol board and paper bags, from 40 to 45 per cent; envelopes, wrappings, other paper board, other writing, vulcanized fiber, sheets, strips, rods and tubes, from 30 to 38 per cent. Overissue and old newspapers showed an increase of 47 per cent and greaseproof and waterproof papers an increase of 8 per cent, compared with the corresponding month last year.

January exports of paper base stocks were valued at $275,825, an increase of 75 per cent over those of a year ago and a 3 per cent increase over the December shipments. Pulpwood exports showed an increase of 12 per cent over the preceding month, whereas rags and other paper stocks decreased 34 per cent; soda pulp, 25 per cent and sulphite wood pulp, 4 per cent. Compared with the corresponding month last year the following increases are noted: Pulpwood, 184 per cent, sulphite wood pulp, 128 per cent; soda wood pulp, 330 per cent; while rags and other paper base stocks showed a decline of 38 per cent.

January imports of paper and paper products were valued at $9,045,070, a decrease of 17 per cent compared with January, 1931 and a 6 per cent decrease compared with the corresponding month. Imports of standard news print were valued at $8,210,514, a decrease of 18 per cent from those of a year ago and a 6 per cent decrease from the preceding month. Cigarette paper, books and covers, imports, the next most important item in this group, were valued at $384,768, an increase of 11 per cent compared with January, 1931, and a 4 per cent decrease compared with the preceding month. Very heavy increases are also noted in January imports of paper boxes, papier mache and pulp manufactures, duplex decalcomania paper, not printed, other tissue and crepe paper, and leather board, test and wallboard over those of the preceding month. Heavy decreases, both when compared with the preceding month and the corresponding month last year are registered in greaseproof and waterproof papers, Kraft wrapping, other wrapping, writing and drawing paper, surface coated papers, uncoated paper, decorated and embossed, tissue and crepe paper weighing not over 6 pounds to the ream, paper board, pulp board and card board and paper hangings.

Paper base stocks in January reached a valuation of $7,166,025, or a decrease of 15 per cent from those of a year ago and a 38 per cent decrease from the December figure.

WHAT PAPER MEN THINK

Early this year the New England Council's Industrial Committee distributed to New England business leaders an "expression ballot," on which to record their opinions of business policy for 1932. Replies were received from 853 executives representing some 20 fields of business and industry in all six New England states.

A tabulation of those 853 replies shows an important composite picture of the stand of a large section of New

England business on such national questions as tariffs, war debts, the formation of a national economic council, and unemployment insurance, as well as on the immediate sales and manufacturing policies on which these business men are depending for increased profits in 1932.

A tabulation of the answers made by forty-seven paper manufacturers in the six New England states is presented herewith:—

I. MEASURES ON WHICH OUR COMPANY WILL RELY FOR IMPROVED PROFITS IN 1932 ARE:

A. In Selling

1. Reducing expenses other than wages and salaries	34
2. Reducing wages and salaries	18
3. Increasing volume of sales	33
4. New products	34
5. New packaging or wrapping	16
6. New uses for present products	26
7. Increased help to dealers or retailers	18
8. Opening of more outlets	
a. wholesale	13
b. retail	7
9. Manufacturer ownership and operation of outlets	
a. wholesale	1
b. retail	0
10. Application of	
a. sales analysis to domestic markets	23
b. sales analysis to foreign markets	2
c. market research to domestic markets	20
d. market research to foreign markets	3
11. Concentration on most profitable	
a. lines of product	26
b. customer accounts	20
c. sales territories	21
12. Increased advertising	6
13. Revision of selling organization	12

B. In Manufacturing

1. Decreased production costs	35
2. New machinery of higher capacity	21
3. Revision of manufacturing layout	10
4. New processes	18
5. New methods of shop management	13
6. Application of bonus or other wages incentive plans	15
7. Reduction of operating costs	30
8. Improved stores control	10
9. Better factory lighting	5
10. Increased safety work	10
11. Use of new machinery for moving materials	6
12. More research for new products, improvements, etc.	24

II. PLANNING FOR FUTURE

To minimize or forestall effects of next depression, I recommend:

	Yes	No
1. Each employer accept definite responsibility for providing maximum possible security of employment for his stable force	30	6
2. Each employer set up reserves to help maintain weekly income of his stable force during depressions	15	15
3. Compulsory Unemployment Insurance be established by State Governments	1	32
Federal Government	3	29
4. Each employer develop long-time plans for operating, as nearly possible, at uniform rate from year to year. In this connection, I favor		
a. Sales estimating and forecasting	29	4
b. Budgeting sales	27	4
c. Budgeting production	29	4
d. Budgeting financing	28	4
e. Giving vendors estimates of requirements three months in advance	19	7
f. Getting customers to give estimates of their requirements three months in advance	21	8
g. Shortening of weekly hours to conform to work available	30	5
h. Reserving plant expansion for depression periods	18	7
5. Reserving public works construction for depression periods to provide employment	30	9
6 Restricting use of labor-saving machinery to increase employment	0	33
7. Vocational guidance by schools, colleges, and universities away from decadent occupations	32	2
8. All banks,—state, private, etc.,—in a Federal Reserve District,—be required to become members of the Federal Reserve System	32	3
9. As a check on credit inflation, banks should be prohibited from making loans on common stock collateral security, except on a predetermined basis of actual earnings or actual net worth, over a 3 to 5 year period, of the firm whose stock is being offered as collateral	20	11
10. Manufacturing corporations should be prohibited from loaning surpluses in call money market	21	11
11. Curtailment of competitive credit facilities, such as installment financing companies	14	12
12. Establishment of national real estate mortgage bank	19	10

III. BUSINESS PROGRESS

To enable New England industry and business to make better progress, I believe that:

	Yes	No
1. Anti-trust laws should be modified to allow firms to co-operate in		
a. Price stabilization	63	6
b. Standardization of discounts	35	4
c. Standardization of reserve accounting	33	2
d. Stopping "cut-throat" competition	41	3
2. Federal Government should be asked to standardize or otherwise protect the cost-base in each industry—to check selling below cost	22	18
3. Trade associations should undertake		
a. Long time planning for their industries	37	3
b. Broader fact-finding and statistical services for their industries	39	
c. Promotion of widest possible adoption and use of scientific management principles and methods among their members	37	1
4. Apropos of Swope plan, trade association membership should be compulsory for all firms in an industry	21	15
5. Tariffs should be		
a. generally reduced		12
b. generally increased		0
c. generally undisturbed		12
d. adjusted case by case by tariff commission		25
6. War debts should be		
a. scaled down		25
b. cancelled		7
c. undisturbed		8
7. Moratorium should be extended	31	6
8. A National Economic Council should be set up by		
a. Business, independently of Government		11
b. Government, independently of business		1
c. Business and Government cooperating		30

Great Lakes Adjudged Bankrupt

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., March 21, 1932.—Failure to meet liabilities as they fall due, particularly a claim for $253,509 by the Inland Coal and Dock Company, Ltd., of Minneapolis, resulted in the Great Lakes Paper Company, Ltd., one of the Backus group, being adjudged bankrupt on March 14, in a judgment handed down by Justice Sedgwick at Osgoode Hall, Toronto. On the receiving order made, F. C. Clarkson was appointed custodian.

Three years ago E. W. Backus, president of the company, was offered $20,000,000 for it, he testified at the hearing, but he refused it. He considered the company unsalable at the present time due to general conditions, and conditions in the pulp and paper industry in particular.

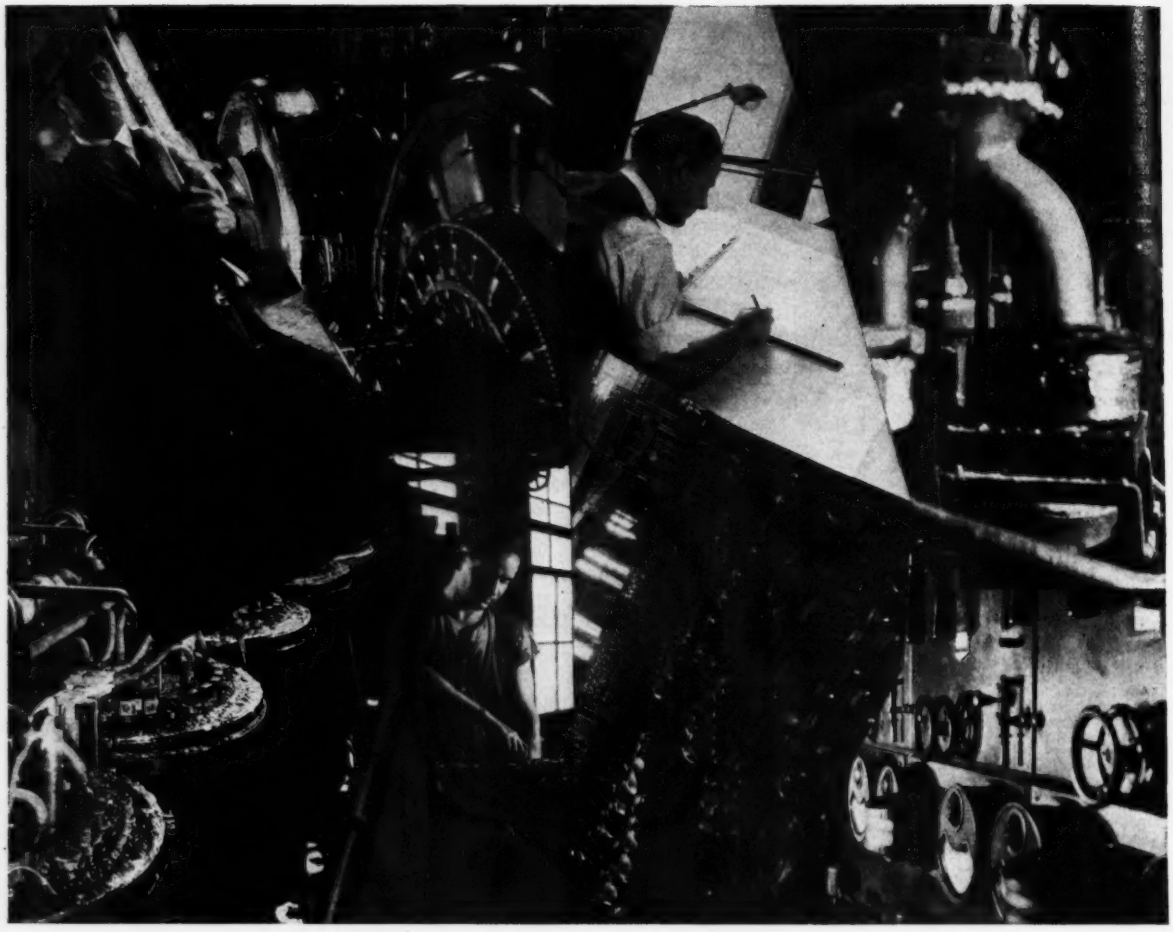
His Lordship relates in his judgment that petitioners were demanding immediate payment of at least $50,000 last June, and that the letters written by Mr. Backus indicated the company's inability to pay not only the $50,000 but also the company's indebtedness to its two bank creditors, the Continental Illinois Bank and the Dominion Bank. The three creditors among them had claims which covered 90 per cent of the company's liabilities. His Lordship pointed out that the company was in default on interest on $10,000,000 bonds at the close of March, 1931. After reviewing evidence as to arrangements reached between the debtor, the bond trustees and the creditor applicant, the judgment says: "I am satisfied that these happenings constitute a failure to meet liabilities generally as they became due and that this failure took place in June and July, 1931." The company's mill is at Fort William, Ont.

Paper Mills Report Improvement

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., March 21, 1932.—Improvement in business conditions is reflected in reports from several of the large paper mills in this section. Officials of the Sherman Paper Company announced that they have been observing full time schedules for the past few weeks because of an increased volume of business. The company claims that orders are plentiful but price difficulties are causing some trouble. It was declared that no difficulty is being experienced in obtaining orders but that it seems impossible to raise prices where they should be.

The company manufactures ground wood specialties including manifold, mimeograph, ground wood drawing, magazine papers, etc. It also produces a large amount of print paper which is used extensively by publications requiring quality, color and weight attributes.



"YOURS TO COMMAND"

A quaint phrase . . . but here at EBG it still means something real. Our men and our equipment are serving *you*. Laboratory research and engineering counsel, quick delivery and complete facilities are "yours to command." And this product, of which we are the pioneer manufacturers, is the result of rigidly controlled, uniformly high manufacturing standards.

EBG

Look for the RED Cylinder

ELECTRO BLEACHING GAS CO.
Pioneer Manufacturers of Liquid Chlorine
Main Office: 9 E. 41st St., New York, N. Y. Plant: Niagara Falls, N. Y.

Liquid Chlorine

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

The National Research Council, 21st and B Street, Washington, D. C., through Dr. Clarence J. West, extends the courtesy of its photostat service to members of the Technical Association of the Pulp and Paper Industry. Owing to a limitation of personnel and time, this service cannot be extended to non-members.

The charge for the photostat service is: 9 x 11 inches—18 cents per page, 18 x 11 inches—35 cents per page, 22 x 18 inches—70 cents per page, minimum charge, 50 cents.

Payment should be made upon receipt of invoice.

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Sizing

Solvent Sizing. O. Minton. Pacific Pulp Paper Ind. 5, No. 12:26-29 (Nov., 1931).—"Solvent sizing" is the term applied to the sizing of paper when powdered rosin dissolved in some such solvent as carbon tetrachloride or ethylene dichloride is used. The unsized paper dried either in a vacuum or old type paper machine drier is sized within a vacuum dryer either by spraying it with or passing it through a bath of the dissolved rosin. It is then passed through a pair of squeeze rolls and redried. The solvent is condensed and reused. Since the rosin is applied as a film on the finished sheet, the use of alum is eliminated. Advantages are that it makes the vacuum drier available for rosin sized papers, with the attendant advantages of low temperature drying and eliminates the acid and its deteriorating effects on the paper and the machine clothing.—C. J. W.

Montan Wax and Montan (Wax) Size. J. Marcusson and P. Lederer. Chem. Umschau 38: 253-255 (1931). Brit. Chem. Abstr. 1931B:1000.—Analyses are reported for various samples of montan wax. Sized paper may be extracted by benzene-ethyl alcohol (8:2); resin is detected in the extract by the Morawski's test and fatty and (oxidized) resin acids are separated by saponification and esterification; acids from montan sizes have a mean molecular weight of 399-405. The paper is further extracted with water in order to determine animal size.—C. J. W.

Bewoid Process for the Dispersion of Rosin in the Sizing of Stock. Bruno Wieger. Wochbl Papierfabr 62, No. 26: 626-628 (June 27, 1931).—The "Bewoid" process is to give the finest possible dispersion of the rosin with the least possible amount of alkali, which is done by dispersing melted rosin in an aqueous solution of a protective colloid. The author has come to the conclusion, that it is not the physical chemical condition of the rosin size which determines the sizing properties, but the optimum size of the rosin particles which comes in contact with the fibers. Only the molecular dispersion and the coloidal dispersion conditions of the rosin size come into consideration in the sizing. A particular advantage of the "Bewoid" process over the others is that the formation of large particles is absent. In the "Bewoid" process the particles are of a size between molecular dispersion and large dispersion, which means that the excess of size ordinarily used is unnecessary. The significance of the alum is given and the author is of the opinion, opposed to the present viewpoint, that only aluminum resinate occurs.—J. F. O.

Sizing of Paper. E. Arnould. Papier 34: 1069-1073 (Oct., 1931).—A brief discussion of sizing troubles.—A.P.-C.

Investigation of Sizing Tests. E. C. Hendrickson. Paper Mill, No. 45: 5, 24 (Nov. 7, 1931).—The ink test, water penetration test, Valley size test and porosity test were studied. The measurement of the degree of sizing is affected by factors which cause erratic results which were not eliminated by any of the above tests. In any of these tests both humidity and temperature should be controlled; corrections for these factors are not reliable. The ink test is subject to more variation than the other tests, but by making the test at 95°F. the variations are greatly reduced. The Valley size test has the advantage of being reproducible and is less affected by atmospheric conditions. The water test is a fairly satisfactory size test; the distinction between samples, however, is not as large as would be desirable. The porosity test has no direct relation to the other tests.—A.P.-C.

Bodies for the Carrying of Colors, for Example, Copy Paper, Colored Bands and Similar Objects. Rudolf Jarmai & Eugen Lorand, Budapest. Ger. pat. 623226 (Oct. 20, 1926).—The body carrying the color contains ultramarine, besides the active coloring matter such as aniline or its equivalent.—J. F. O.

Fastness of Dyestuffs to Various Influences. J. R. Roberts. Paper Mill 54, No. 41: 12, 14 (Oct., 10, 1931); Pulp Paper Mag. Can. 30: 1196-1197 (Oct. 29, 1931).—A brief discussion of the effects of water and chemicals used in the manufacture of paper on the fastness of the dyestuffs used, with hints on how to use colors in paper making.—A.P.-C.

How to Minimize Off-Shade Production Losses in a Paper Mill. Ivar Ekholm. Paper Mill 54, No. 42: 12, 14 (Oct. 17, 1931).—Brief hints on the precautions to be taken to ensure proper shade of the paper with minimum production loss.—A.P.-C.

Drying

"Siccometer," a new device for the Automatic Registration of the Moisture Content of a Sheet of Paper. Brecht. Wochbl Papierfabr. 62, No. 30: 718-721 (July 25, 1931); Papierfabr. 20, No. 35: 578-580 (Aug. 30, 1931).—A new device has been perfected in the central laboratory of the Siemens & Halske A. G. and proven itself practical in the mill, which automatically and continuously records the moisture content of the sheet of paper. The "Siccometer" makes use of the relation of the dielectric constant of the paper with its moisture content, which influences the capacity of a measuring condenser by having the sheet pass over its field. The condenser is built as a plate over which the sheet passes with light pressure. Attempts are being made to have the device serve as an impulse mechanism so that it can be used for automatically regulating the moisture content of the sheet.—J. F. O.

Recent Cooking, Drying and Heating With High Pressure Hot Water. H. Stenger. Wochbl Papierfabr. 62, No. 30: 721-722 (July 25, 1931); Paper Maker 82, No. 3, suppl: lxix (Sept., 1931).—The author first explains the meaning of high pressure hot water and principle of hot water installations. The advantages of high pressure hot water over steam are enumerated and the many possibilities for the use of this system are shown. In changing from steam to high pressure hot water installations the pipe lines and fittings on hand can be used in many cases with very little changing. A circulation pump is necessary. The saving due to changing to the high pressure hot water system depends upon the present system.—J. F. O.

Process for the De-Watering of Wet Roofing Board and Similar Materials. Richard Kastner, Steyrermuhl, Austria. Czech. pat. 35461.—The de-watering takes place in pressures through which piles of the material is led, a coarse wire being placed between the single boards. Heat is introduced to aid in the evaporation of the remaining water. The wet mass being pressed is used as the resistance with the metal wire between the board as the electrodes.—J. F. O.

Suction Roll for the De-Watering of Fiberous Material With the Suction Cells Running Parallel to the Roll Axis and Open from the Outside. Helmuth Banning, Duren. Aust. pat. 121843 (Nov. 5, 1930).—J. F. O.

De-watering Machine in which a Cylinder Covered with Wire Operates in Conjunction with an Endless Wire. Eisengiesserei Maschinen und Papenfabrik, G.m.b.H. Obergruna, Germany. Ger. pat. 521172 (Feb. 15, 1929).—The stock is fed in between the two wires.—J. F. O.

Device for the De-watering of Cotton, Linters, Pulp, Ground Wood and Similar Materials. Gebr. Bellmer, Maschinenfabrik, Niefern, Germany. Ger. pat. 515463 (Nov. 22, 1929). Addition to Ger. pat. 496059.—Consisting essentially of a filter drum over which an endless wire passes.—J. F. O.

Paper and Pulp Testing

Quick Method for the Determination of the Water Content of Fibrous Materials. K. Berndt, Zellstoff Papier, 11, No. 8, 466 (August, 1931).—The apparatus constructed by C. R. Blomstedt for the quick drying of fibrous materials such as wood, pulp and paper is described. If necessary, the material is first defibered. Air which has been heated to 74 to 80° C. by passing over a heat resistance, is pressed or sucked through the material being dried. The speed of drying is dependent upon the size of the material being dried, temperature, air speed, etc. The determination takes from 10 to 15 minutes.—J. F. O.

Viscosity and Rag Evaluation. Egmont H. Wennberg and G. E. Landt. Paper Trade J. 93, No. 18: 74-76 (Oct. 29, 1931).—It is shown that the viscosity of rags follows such a classification of softness and strength as might arbitrarily be adopted to facilitate manufacturing methods. From a study of the viscosity properties of blended rags, the following formula was derived as a means of relating the viscosities of rag mixtures: $n = \frac{p}{n_2} \times n_1$, in which n is the viscosity of the mixture, n_2 the viscosity of the high-viscosity cellulose, n_1 the viscosity of the low-viscosity cellulose and p the percentage of high-viscosity cellulose.—A.P.-C.

Measuring the Swelling of Fibers Used for the Manufacture of Viscose. Raymond Fournier. Papeterie 53: 1193-1197 (Oct. 10, 1931).—The following method is recommended. Determine moisture by drying to constant weight at 100 deg. to 105 deg. C. Introduce 10. g. or more of pulp (preferably, but not necessarily, previously dried) torn into small pieces into a carefully calibrated flask add water (e.g., from a burette) to the calibration mark; the difference between the water added and the capacity of the flask gives the volume of the pulp. Introduce a second similar sample into a tared calibrated flask, add sufficient 17.5% caustic soda to completely cover the pulp, after a definite time remove the excess solution by inverting the flask previously covered with a perforated porcelain plate, let drain for a definite time, weigh, and determine the volume of the soda-soaked pulp by filling to the mark with a liquid which is immiscible with caustic soda solution and which has no appreciable action on the pulp. The swelling power under the conditions selected is easily calculated.—A.P.-C.

Wood Pulp Testing Methods: Their History and Development. G. H. Gemmell. World's Paper Trade Rev. 96: 1217-120; 1294, 1296, 1353-1354; 1387-1388, 1426-1430 (Oct. 9-23, 1931).—A review of the history and development of the testing of wood pulp for moisture since 1888 to the present day, showing the necessity of revising the present Contract Note regarding rules for sampling wood pulp approved by the British and Scandinavian pulp and paper associations—A.P.-C.

Chemical Testing in Mill Control. Jessie E. Minor. Paper Trade J. 93, No. 19. 41-42 (Nov. 5, 1931).—A discussion of the importance of chemical tests in the control of pulp and paper mill operations, exemplified by the control of rosin sizing, bleaching, strength properties, and the use of viscosity, alpha-cellulose and copper number determinations.—A.P.-C.

On the Origin of Errors in the Testing of Wood Pulp for Air-Dry Content. James Strachan. Paper Maker 82, No. 4: lxxiii—lxxxviii (Oct. 1, 1931).—A discussion, based on many years' of personal experience, of errors in the selection and weighing of the bales, in the cutting of the samples and in the moisture estimation carried out in the laboratory.—A.P.-C.

Determining the Bursting Strength of Paper. James d'A. Clark, Paper Trade J. 93, No. 19:37-40 (Nov. 5, 1931).—A detailed description is given of a procedure for the determination of bursting strength, which is proposed for adoption as official by TAPPI. The main change suggested in the existing TAPPI method is to specify that the specimen be burst in a certain time from the commencement of the application of the pressure and that the pressure be uniformly increased until rupture occurs, in place of requiring that a definite volume per minute of fluid be pumped into the hydraulic chamber.—A.P.-C.

Control of Relative Humidity in a Small Inclosed Space. F. T. Carson. Paper Trade J. 93, No. 18: 71-74 (Oct. 29, 1931).—A brief description is given of the latest type of constant-humidity cabinet for paper-testing developed at the Bureau of Standards, together with a compilation of data for the preparation of solutions having the required relative vapor pressure.—A.P.-C.

Determination of Solubility Number: Micro-Method for Measuring the Extent to which a Cellulosic Material has been Chemically Modified or Degraded. C. R. Nodder. J. Text. Inst. 22:416-424T (1931); Brit. Chem. Abstr. 1931B:1042.—The material is first boiled for 6 hours with a 2 percent solution of sodium hydroxide and the solubility of the dry product on treat-

ment with 10 normal sodium hydroxide at 15° and subsequent dilution to 2 normal is determined by oxidation of 2 cc. of the filtered solution with chromium trioxide. The solubility number is the percent of celluose dissolved by this treatment under the stated conditions and its measurement affords a reliable means of estimating the extent to which the material has been degraded by chemical attack. For the initial stages of such attack the cuprammonium viscosity method is the more sensitive but when the degree of attack is high the reverse obtains.—C. J. W.

Machinery

Feeding Device for Barking Machines, Which Can Revolve the Log Around Its Longitudinal Axis During the Feeding. Impreva Holzimpragniering und Holzverwertung, A. G. Berlin Charlottenburg. Ger. pat. 514,037 (Oct. 16, 1927).—Two rolls are provided for carrying, rotating and moving forward the logs. The axis of these rolls are fixed so they can rotate around an axis perpendicular to the axis of the roll.—J. F. O.

Device for Chipping Wood, Especially for the Manufacture of Wood Pulp. Magnet-Werk G.m.b.H. Eisenbach. Ger. pat. 518,-061 (Feb. 7, 1928). Addition to Ger. pat. 512,608. The device is characterized by having two counter bearings arranged at a distance one above the other, in the filling cone of the chipper device.—J. F. O.

Process for the Cooking of Pulp by Means of Indirect Steam and by the Circulation of the Cooking Liquor Outside the Digester. A. E. Nielsen, Oslo, Norway. Fin. pat. 13,163 (Feb. 3, 1928). A thickening of the cooking liquor takes place simultaneously with the cooking. This occurs gradually during the cooking, for the purpose of increasing the combustion value of the waste liquor and also decreasing the amount of material required for its evaporation. The yield of stock is also increased. —J. F. O.

Reversible Circulation System for Pulp Digesters. E. Morterud, Torderod, Norway. Fin. pat. 13,211 (Sept. 1, 1928). The circulation device consists of a pump within the digester which is connected with a screen arrangement in the upper and lower part by means of pipes. The pump is reversible so that the pipe lines serve as suction and pressure lines.—J. F. O.

Pulp Digester With an Arrangement for Forced Circulation of the Liquor. Einar Morterud, Torderod, Norway. Ger. pat. 519,110 (March 3, 1930). The digester is provided with a pump with a pressure line leading to the top of the digester while the suction line comes from a ring shaped screen located just above the cone shaped bottom. There is a smaller pipe line leading from the suction side of the pump to the very bottom of the digester. By means of these lines the liquor is circulated throughout the digester.—J. F. O.

Process for the Filling of a Pulp Digester. Per Albert Gresk, Robertstors, Sweden. Aust. pat. 121,824 (July 15, 1929). Addition to Aust. pat. 104,141. A change in the process according to Aust. pat. 104,141, whereby the digester material is introduced by means of an air current without the production of any vacuum.—J. F. O.

Shower Water Arrangement for the Emptying of Pulp Digesters in a Pulp Mill. Hans Meyer, G.m.b.H. Breslau. Ger. pat. 511,769 (Jan. 3, 1929). A revolving nozzle is fastened on to a drum located on the charging floor, and the rotation of this drum lowers the nozzle into the digester. The water pressure rotates the nozzle within the digester.—J. F. O.

Device for the Emptying of Pits. Firma R. Folsche, Halle. Ger. pat. 521,710 (Aug. 23, 1927). Water under pressure from a pump is directed onto the pulp by means of a special nozzle and in such a manner that a certain amount of pulp is removed with the water. Arrangement is also made to reuse the water from the pit providing the amount of stock which it carries is small.—J. F. O.

Over Loaded Paper Machine. Corrected by the Regulation of the Steam Fed to the Dryers. K.Th. Jahn. Zellstoff Papier 11, No. 8:470-471 (Aug., 1931). In order to strike a balance, while increasing the capacity of a paper machine, the total drying surface must be so arranged that the moisture curve of the paper being dried increases sharply with decreasing moisture content, until the final drying starts. The author differentiates between the evaporation which takes place up to a 10 to 12 per cent moisture content, and the complete drying, the critical point being about 12 per cent. The heating on the first cylinder can be carried out until the sheet sticks to the drier. The author discusses the influence of the distance between the top row and bottom row of driers.—J. F. O.

Arrangement for Knotters Used in the Manufacture of Paper, in Which the Plates are Provided With Slits. Fa. Linkopings Armatur och Metallfabriks. A. B. Linkoping, Sweden. Czech. pat. 34,690. The slits in the plate are made as grooves on the under side.—J. F. O.

Process and Arrangement on a Metal Cloth Used in the Manufacture of Paper. Carl Kurtz-Hahnle, Reutlingen. Ger. pat. 522,657 (Feb. 3, 1928). The side of the metal cloth carrying the paper stock is made smooth.—J. F. O.

Fourdrinier Machine With an Endless Wire Led Over a Suction Cylinder. Hermann Colombo & Firma Wanger, Reutlingen. Germany. Ger. pat. 521,502 (Jan. 7, 1926). The machine possesses a suction cylinder instead of a breast roll and table rolls. An endless wire runs over the suction cylinder, which revolves in a stock solution and taking it up by means of the suction in the lower part of the cylinder.—J. F. O.

Device for the Winding of Endless Webs. Hans Stopfer, Kothen, Germany. Ger. pat. 520,662 (March 21, 1929). When the web has been rolled up to the required weight, one of the supporting rolls which is counter balanced by weights at the other end of the lever, is lowered and the finished roll is removed.—J. F. O.

Arrangement for the Stretching of Felts for Paper, Carton and Board Machines by Means of Weights. Firma. M. Voith, St. Polten, Aust. pat. 121,827 (Nov. 15, 1930). Means are provided for the release of the weights, keeping the felt under tension.—J. F. O.

Couch Roll. Frabe. Zellstoff Papier 11, No. 8: 476-477 (August, 1931). The author gives many practical ideas concerning the functioning of the couch, the top and bottom rolls, covering, etc.—J. F. O.

Calender Roll. Joh Kleinewefers Sohne, Krefeld. Ger. pat. 508,215 (May 17, 1929). At the foot and at each end of the calender are two suction cylinders, the pistons of which operates a lever arm. By means of this arrangement the pressure on the rolls is regulated.—J. F. O.

Slitter Machine. Jagenburg-Werke, Akt. Ges. Dusseldorf. Ger. pat. 515,668 (April 24, 1929). The body holding the knife is capable of swinging about an axis and it is this same body which has another roll at its extremity that lies upon the roll of paper being wound up.—J. F. O.

Device for Paper Winders. Carl Nebrich, Germany. Ger. pat. 517,230 (March 9, 1930). Addition to Ger. pat. 469,675. In carrying out the device further according to Ger. pat. 469,675, there is a deflecting bar placed before the roll being wound, which is rotating above two support rolls.—J. F. O.

Arrangement for the Clarifying of the Back Water from Paper, Pulp and Similar Mills. Fritz Arledter, Cologne, Germany, Ger. pat. 512,323 (Feb. 29, 1924). The invention concerns itself with a vertical, enclosed clarifying tank, with perpendicular filter tubes built within the tank. The filtered water is removed at various places in the tank.—J. F. O.

Stock Temperature Control. Lyman Beeman. Paper Mill 54, No. 43: 22-23 (Oct. 24, 1931); Pulp Paper Mag. Can. 30, 1239-1240 (Nov. 12, 1931).—Through certain improvements in paper making methods, notably reuse of white water and use of slush pulp only, it has been possible to raise the stock temperature

in the head box of paper machine. This together with the use of steam in the head box or wire pit, has made it possible to eliminate undesirable low temperature but has increased the proportion of undesirable high temperatures. These high temperatures must be controlled by some cooling method. Experience to date has indicated that for best sheet forming conditions the temperature should be between 25° and 32°C. (77° and 90°F.), for best sizing it should be under 32°C. and for best stock reclamation it should be over 25°C. Slime growth is rapid at these temperatures and must be controlled by the use of some toxic material such as copper sulphate, chlorine or chloramine.—A. P.-C.

Fourdrinier Paper Machine. Francis S. McDonnell. Fr. pat. 709,842, (May 26, 1931).—The shake is imparted to the wire by means of a special "shake roll," preferably felt or rubber covered, placed under the wire at a point approximately at the center of the "forming zone." The latter is defined as commencing about one-fourth of the distance between the breast roll and the suction boxes and finishing about 1.5 meters before reaching the suction boxes. The shake roll is of larger diameter than the table rolls and is mounted so that the wire is bent at an angle in passing over it. This construction is claimed to permit of running the machine at higher speeds and also of using shake of greater amplitude and higher frequency.—A. P.-C.

Suction Box for Paper Machines. Usines Ch. Catala, M. Catala and A. Huart-Catala. Fr. pat. 711,819 (Feb. 23, 1931).—A suitably perforated, endless, rubber band is interposed between the wire or felt and the suction box cover and travels at the same speed as the wire or felt.—A. P.-C.

Machine Wires and Dandy Rolls. Roger E. Edwards. Paper Mill 54, No. 43:12, 16-17 (Oct. 24, 1931).—A brief outline of recent improvements in the manufacture of paper machine wires and dandy rolls.—A. P.-C.

Historical and Other Data Relating to Fourdrinier Paper Making Machines—1799-1931. J. Wallace Tower. Paper Trade J. 93, No. 9:47-50 (Nov. 5, 1931).—A compilation in chronological order of the important events in the development of the fourdrinier machine.—A. P.-C.

Paper Specialties

Clear Water Marks In Tenaceous Papers. H. Postl. Zellstoff Papier 11, No. 8:475 (August, 1931). The making of hand water marked papers in the Papelera Espanola and Cartiera Pietro Miliani mills is described. The stamp mills with a total of 39 hammers for the hydration of the rag stock which is carried out to a greater advantage than in the beater. Other steps in the manufacture are described.—J. F. O.

Process for the Manufacture of Transparent Paper by Coating Both Sides of Pergamyn Paper With a Colloidal Substance Which Renders the Paper Transparent. Friedrich Karl Wickel, Feucht. Ger. pat. 522,634 (Dec. 11, 1928). A gel made of glycerine and alkali silicate is used in the coating. The content of free alkali in the alkali silicate is completely or partially neutralized by the addition of weak acids, such as lactic acid, before the coating with the gel.—J. F. O.

Process for the Impregnation, Filling, Coloring, Pasting and Similar Operations on One or Multiple Layered Papers, Boards and Similar Materials. Ernst Fues, Hanau. Ger. pat. 514,921 (July 8, 1927).—The material which changes or influences the paper or board surface, is added to the sheet in layers or throughout the entire mass while it is still moist and imbedded between one or more layers of paper, while still on the machine.—J. F. O.

Process for the One Sided Coloring, Sizing, Impregnating and Similar Operations on Paper on a Paper Machine. I. G. Farbenindustrie A. G. Frankfurt a.M. Aust. pat. 121,803 (Nov. 15, 1930). The sheet of paper which is still moist is led around a roll in such a manner that it surrounds the under part of the roll firmly, whereupon the roll with the sheet of paper revolving around it is immersed in the impregnation liquid.—J. F. O.

Window Paper. Iivari Reinila, Brahetad, Finland. Fin. pat. 13,217 (Feb. 22, 1929). The paper is treated with one or more substances which increases the light penetration and with such that makes the paper resistant to moisture and at the same time makes possible the fastening of metal wires or a metal net upon the paper.—J. F. O.

Process for the Manufacture of a Fire-Proof and Insulating Building Material. A. B. Hansen, Oslo, Norway. Nor. pat. 49,044 (June 20, 1930). The material is composed of a vegetable fiber base, such as ground wood, pulp, wood refuse, sugar cane and similar substances, and is treated with a solution of alkali silicate and then hydrochloric acid is added to precipitate the silicic acid, before the material is formed in plates or poured in molds.—J. F. O.

Process for the Manufacture, in an Electrical Way, of Materials for Writing. I. G. Farbenindustrie A. G. Frankfurt a.M. Ger. pat. 523,258 (Oct. 17, 1928). Paper, webs and similar materials are drenched in an acid fixation bath and then dried. Another heavy metal usually lead is added to the acid fixation bath.—J. F. O.

Electrolytic Writing and Drawing Paper, Especially for the Transfer of Photos by Electricity. Rudolf Horn, Oetzsch. Ger. pat. 523,653 (Oct. 11, 1929). Addition to Ger. pat. 498,740. In further carrying out of the process according to Ger. pat. 498,740, the paper is coated on one side completely or partially with a metal foil.—J. F. O.

Paper Containing Iodine for Electro-Chemical Reception with an Electrical Writing or Photo Device. Viktor Bausch, Berlin. Ger. pat. 512,381 (Sept. 1, 1929).—Several iodides with various cations are used simultaneously with each other as the electrolyte.—J. F. O.

Process for the Manufacture of Impervious, Clearly Transparent Paper. Friedrich Karl Wickel, Feucht, Ger. pat. 515,186 (March 27, 1928). Impervious, clearly transparent, soft and sized paper is obtained from pergamyn paper by means of an aqueous solution of colloids of animal origin, in such a way, that the paper is first treated with a glycerin solution containing as little water as possible, which softens the paper and then the paper is treated with an aqueous solution of egg albumin or other animal albumins or glutins. Then tanning materials and dyes are added and the paper dried.—J. F. O.

Process for the Manufacture of Carbon Paper. Firma Guntner Wagner, Hannover. Ger. pat. 516,975 (March 8, 1928). A solution of natural or artificial rubber, gutta percha, balata, coloring materials and if necessary softening materials, such as, palatin oil, tri cresyl phosphate, oils, fats and fatty acids are added to the sheet and allowed to dry. According to claim number 1, vulcanization means and accelerators are added to the solution.—J. F. O.

Process for the Manufacture of Carbon Paper. Firma Gunther Wagner, Hanover, Ger. pat. 520,036 (Dec. 6, 1928). Addition to Ger. pat. 518,273. A solution of natural or artificial rosin or ester is brought upon the sheet, and after the partial or complete removal of the solvent a coloring layer is added to the sheet.—J. F. O.

New Pulp Boring Bits

Hamlin & Morrison, analytical chemists of 216 South Second Street, Philadelphia, have announced that they have developed a new bit to be used in collecting pulp samples.

The bits are of orthodox design, but are of more substantial build than usual. Prior to being offered to the trade they are subjected to severe and continued practical tests, before being offered to the trade at four dollars each, or at three dollars and fifty cents each in lots of twelve. A heavier bit for use in hand-electric drives is available at six dollars each.

Forming and Testing Pulp Sheets*

Tentative Official Standard Method of the Technical Association of the Pulp and Paper Industry

I Scope

The following apparatus and methods deal with a precision method of forming test sheets from pulps of whatever nature or after being accorded any degree of beating, and testing the resulting sheets for their physical properties. In the appendix is described a method for accurately determining the drainage time or slowness of the pulp being tested which has been found to give an excellent correlation with the subsequent behavior of the pulp on commercial paper making machines.

As is indicated, the method is a precise one and is not necessarily suited for routine control work but suggestions are made in the appendix indicating modifications or eliminations of certain steps so as to make the test sufficiently rapid to meet requirements of speed, sacrificing thereby some extreme accuracy which may be unnecessary for the purposes in view.

II Apparatus Required

Standard disintegrator.

Standard sheet machine with stirrer.

Standard couch roll.

Standard couch plate.

Standard pump and press with pressure gauge.

Press template for centering the sheets and plates in the press.

Seven or more mirror polished stainless steel discs, 6¼" diameter.

Eight or more drying rings with rubber seatings for holding the sheets to the polished discs during drying.

A quantity of sheets, 8" square, of standard blotting paper.

One 500 c.c. enameled cup.

One bucket with mark at 16 liters.

One 1,000 c.c. graduated cylinder.

Specifications for most of this equipment, with illustrations are in the appendix—section "B."

III Sampling

When dealing with mill consignments, a sample of pulp about four square inches is drawn from the interior of every bale included in the official test for moisture, or, in the case of a shipment of chemical pulp where the cook numbers are known, the number of samples should be proportional to the number of bales representing each cook, provided no fewer than three samples from each cook are obtained. When neither of these methods is possible a sufficient number of samples should be selected in such a way as to be representative of the whole consignment. The weight of the sample should be equivalent to at least 100 grams of dry fiber.

Samples submitted by the supplier must be representative of the pulp, and delivered to the user in the condition in which the main bulk is to arrive. When contracts are made buyer and seller should retain sufficient quantities of the sample to serve as a standard for reference.

Storage of Pulp Samples

Pulp samples should be stored in air-tight containers with a few drops of formaldehyde and kept in a cool place.

IV Test Specimen

A representative sample of the pulp obtained by tearing equal portions from all the samples collected, equivalent to 24 grams of oven-dry fiber, is weighed out, thoroughly wetted with cold water if not already moist, torn into pieces about one inch square, and allowed to soak, for four hours if a dry chemical pulp, or for twenty-four hours if a dry mechanical pulp. Moist pulps may be disintegrated immediately.

V Procedure for Sheet Making

Disintegration

The mixture is made up to 2000 cc. with cold water (1.2 per cent consistency) and disintegrated for 75,000 revolutions in the standard disintegrator with the propeller running at 3,000 r.p.m. in the stock.

After disintegration the stock is diluted to 16 liters with cold water (0.15 per cent consistency).

Sheet Making

The sheet machine container is half filled through the wire with water (care being taken that the pet-cock is closed) and the water then let out until the container is about one-third full. This is to ensure driving out all the air from beneath the wire. 800 cc. of the well-mixed dilute stock at 0.15 per cent consistency are accurately measured out and poured into the container, the water supply being simultaneously turned on until the depth of the dilute suspension is 35 cm. above the wire surface. The ultimate requirements are sheets each weighing 1.20 grams dry corresponding to a substance of 60 grams per square meter or to 42.7 lbs. 25" x 40"—500. Consequently for a finely divided pulp slightly more than 800 cc. should be added, for example 840 cc. for an average groundwood pulp to allow for a 5 per cent fibre loss through the wire. The perforated stirrer is then inserted and in 6 seconds moved steadily down and up six times, keeping the disc beneath the level of the liquid, and this double movement very slowly repeated once in 10 seconds, followed by gentle withdrawal of the stirrer. After a pause of ten seconds, during which time the surface of the liquid should have become almost motionless, the drain cock of the machine is fully opened with a rapid movement and the sheet allowed to drain under suction for one-half minute after the water has disappeared, this period being utilized in measuring out the stock for the next sheet. The container is then tilted slightly, to avoid wetting the sheet, and removed. The pet-cock is at once opened and after ten seconds the sheet is couched off the wire.

Couching

Two pieces of 8 x 8 inches (203 mm. x 203 mm.) blotting paper 0.0195 to 0.0200 inches (about 0.5 mm.) thick, weighing 250 ± 5 grams per square meter and having an absorbency such that when strips are immersed to a depth of 3 mm. in distilled water at 15 deg. C. the average height to which the water rises in both machine and cross directions in 10 minutes is 50 ± 10 mm., are centrally laid on the pulp sheet in the sheet machine. The flat brass couch plate is at once laid centrally on the blotters and the brass couch roll placed gently in the middle of the plate. The roll is moved backward (no other pressure being applied) to within ¼ inch of the edge of the plate (which is maintained horizontal by placing the fingers on the opposite edge), then forward to within ¼ inch of the front edge, then back and forth four times and finally to the middle, when it is lifted off. The time taken to perform the five complete rolls should be about twenty seconds.

The pulp sheet and blotters and covering brass plate are then removed from the wire in a manner similar to that of opening the cover of a book, when the sheet will be found adhering to the blotter next to it (the couch blotter). The couch blotter and sheet are immediately detached from the other blotter (the couch filler) and plate, and by means of the press template laid centrally, test

TAPPI Section, Page 154

* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 15-18, 1932. This method has been arranged by James d'A. Clark, of the Mead Corporation, Chillicothe, Ohio, and has been approved by the TAPPI pulp testing committee. Suggestions and criticisms should be sent to R. G. Macdonald, 370 Lexington Ave., New York, N. Y.

sheet uppermost, on one dry blotter (the press filler) which has been previously placed in the press. A mirror-polished stainless steel plate is then placed on the test sheet, followed by another press filler ready to receive the next couch blotter and sheet. The wire in the sheet machine is washed in position by turning on the water, and the next test sheet is made in precisely the same way. A minimum of seven sheets are required in all, and the stack in the press will, when complete, consist of press filler, couch blotter, sheet and plate, repeated seven times. Finally, a single blotter is laid on the uppermost plate to avoid possible damage to the press cover.

First Pressing

The cover of the press is put on evenly and each diagonal pair of wing nuts screwed down hand tight. The pressure as indicated by the gauge, is then raised to 50 pounds per square inch in one half minute from the time the needle begins to move, and maintained there for five minutes. At the expiration of that time the pressure is released and the press cover at once removed. (Only two nuts need be employed diagonally if the standard pressure of 50 pounds per square inch is not greatly exceeded).

Second Pressing

After the first pressing, the steel plates with test sheets attached are removed from the pile of moist blotters. The plate that was on top of the stack during the first pressing is now laid centrally, by means of the press template, on a dry blotter, test sheet uppermost, and the sheet covered with one new blotter. This blotter also serves as base for the next plate and test sheet. Thus the stack is now built up on a foundation blotter, and comprises plate, sheet and press filler, repeated seven times. The order of the sheets is thus reversed in the second pressing. The cover is placed in position as before, and the pressure raised rapidly to 50 pounds per square inch as indicated by the gauge and maintained there for two minutes only. (There is no necessity to fix a time period for attaining the stipulated pressure in the second pressing, as the tendency for the pressure to fall off is very much less than before).

During couching and pressing the felt sides of the blotters, and not the wire sides are to be in contact with the sheets.

Drying

The stack is removed from the press and the plates with the attached test sheets are fitted into a set of drying rings, each test sheet uppermost and in contact with the rubber of the next ring and a heavy weight is then placed on top of the pile. The sheets when dried are perfectly flat and have an M.G. finish.

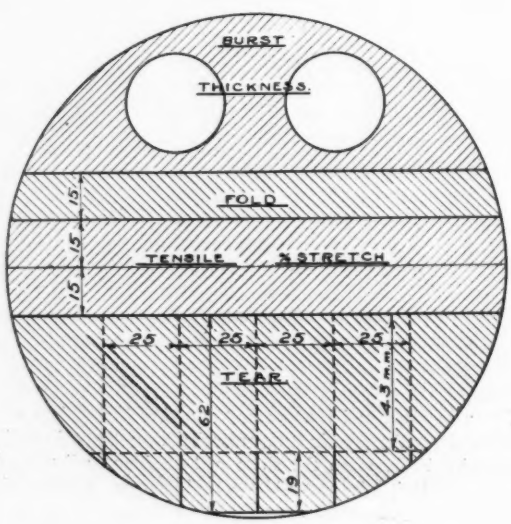


Fig. 1

Conditioning

The sheets are kept in an atmosphere of 65 per cent relative humidity and 70 deg. F. until they attain equilibrium as to moisture content. Sheets, especially groundwood sheets, must be tested within a day after they have been made. If a constant humidity room is available it is convenient to dry and condition the sheets at the same time.

VI Examination of the Test Sheets

The sheets are to be tested according to the official paper testing methods of the Technical Association of the Pulp and Paper Industry, unless otherwise specified, for such characteristics as may be desired. Fig. 1 shows a convenient method of dividing and using six test sheets for determining all tests here described.

Basis Weight

After conditioning, the sheets are numbered and the average basis weight is obtained for each group of sheets used for different tests, dependent on the substance, by weighing them on a balance sensitive to 2 mg. The area of each sheet (6 9/32 inches diameter) is 200 square centimeters so if "n" is the number of sheets in a group weighing "w" grams, the basis weight is $\frac{50\,w}{n}$ grams per square meter air dry basis. The oven dry basis weight is obtained by multiplying this value by the dryness factor as subsequently shown.

Thickness

The thickness is to be obtained by measuring the thickness of portions of six test sheets together, the glazed surfaces of the individual sheets being placed in the same direction during the test.

Tensile Strength and Stretch

The tensile strength is to be obtained using at least 12 strips from six test sheets cut 15 mm. wide. The jaws of the tensile tester are used 8 cm. apart. (There is no object as in paper testing of using the long strip, as the strength of the pulp is being measured and not the excellence of the paper.)

Bursting Strength

The bursting strength is to be determined by making at least 12 bursts on six test sheets, the glazed sides being clamped towards the diaphragm in each case.

Tearing Strength

The tearing strength is determined on a calibrated[1] Elmendorf tearing tester by suitably dividing portions from six test sheets and making five tears each through a total tearing distance of 25.8 cm. (6 x 4.3) as shown in Fig. 1. The readings on the regular Thwing Elmendorf[2] are multiplied by $\frac{16}{6} = 2\frac{2}{3}$, to give the grams force to tear a single sheet.

If a Marx Elmendorf tester is used the five tears are made similarly but each through a total tearing distance of 26.4 cm. (6 x 4.4). The readings on this instrument under these conditions would give the grams force to tear a single sheet directly.

Moisture Content

When the tests are completed about 2 grams of the scraps of any of the test sheets are collected, weighed ("y" grams) placed in an oven at 105 deg. C. and dried until no further loss of weight occurs, then placed in a tared weighing bottle which has been kept in a desiccator. The bottle is replaced in the desiccator and allowed to cool, the stopper opened to let in the air and closed immediately and the bottle weighed and the dry weight of the scraps determined ("z" grams.)

[1] James d'A. Clark, "Calibration of the Elmendorf Tearing Tester." Paper Trade Journal, January 7, 1932.

[2] The Thwing Instrument Co., of Philadelphia, Pa., can supply an Elmendorf tearing tester with lighter sector than usual, similar to the Marx Elmendorf Tester, which will be found more convenient for testing groundwood and similar weak pulps.

The moisture content of the sheets under standard atmospheric conditions is then $\frac{y-z}{y} \times 100$ per cent.

The dryness factor is $\frac{z}{y}$ hence the oven dry basis weight is $\frac{50\,w}{n} \times \frac{z}{y}$ gms/M².

Other Tests

If desired other tests such as folding, opacity, porosity, finish (unglazed side), stiffness, color, etc. may be made according to known procedures.

VII Reporting Results

The results are to be reported as follows to the nearest third significant figure:

BASIS WEIGHT—Average in gms./M² (oven dry basis).
(Average in lbs., 25" x 40"—500s = gms./M² × 0.711)

MOISTURE CONTENT—Reported as a percentage.

APPARENT SPECIFIC GRAVITY—
$$\frac{\text{Avg. Basis Wt. in gms./M}^2}{\text{Avg. Thickness of single sheet in 1/1000 mm.}}$$

BURST FACTOR—
$$\frac{\text{Avg. burst in gms./cm.}^2}{\text{Basis Wt. in gms./M}^2} = \frac{\text{Avg. burst in lbs./in.}^2 \times 70}{\text{Basis Wt. in gms./M}^2} = \frac{\text{Avg. burst in lbs./in.}^2}{\text{Basis Wt. (lbs. 25" x 40"—500) o.d.}} \times 0.5$$

BREAKING LENGTH (15 mm. strip)—
$$\frac{\text{Avg. tensile strength in kgs.} \times 200{,}000}{\text{Basis Wt. in gms./M}^2 \times 3} = \frac{\text{Avg. tensile strength in lbs.} \times 30{,}240}{\text{Basis Wt. in gms./M}^2}$$

TEAR FACTOR—
$$\frac{\text{Avg. force in gms. to tear a single sheet} \times 100}{\text{Basis Wt. in gms./M}^2}$$

STRETCH—Average Results reported as a percentage.

VIII Precision of Tests

The average basis weight of the test sheets should be 60 gms./M² ± 3 gms./M². On a complete duplicate test, the burst factor should check within two per cent or less depending on the precision of the bursting instrument.

APPENDIX

A. Introduction

It would be impossible to specify a method of testing pulp for its physical properties which would be equally accommodating to everyone, for example, to buyer and seller of a large consignment of pulp where accuracy could in no way be sacrificed to gain speed and at the same time to the foreman of a mill making groundwood pulp, who desires to know hourly the quality of pulp being made on each of half a dozen stones in which case, clearly, speed is of prime importance. Every paper or pulp mill has individual circumstances, requirements and conditions which preclude the exclusive use of a given method of testing pulp for all purposes.

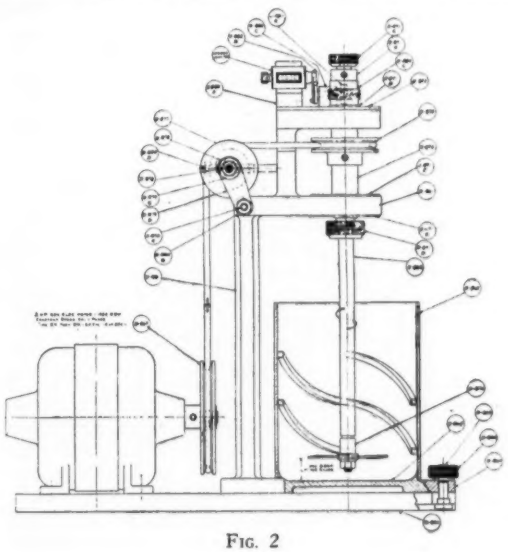


Fig. 2

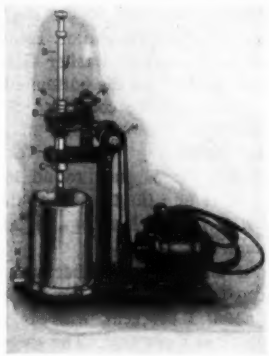


Fig. 3

The method has been drafted with two objects in view, first, to duplicate as far as possible the average conditions under which pulp is commercially made into paper and, secondly, to provide an accurate method with which any existing pulp testing method may be compared so as to obtain factors to convert the test figures to standard results having an international significance. Thus the adoption would not invalidate existing equipment and methods, but would primarily serve as a recognized yardstick for reference purposes, and those interested in the testing of certain classes of pulps by their own methods and apparatus, could occasionally send duplicate pulp samples to a laboratory equipped with the standard apparatus such as the Institute of Paper Chemistry in Appleton, to the Forest Products Laboratories in Montreal or to corresponding bodies or private laboratories in Great Britain, Norway, Sweden, Finland, Esthonia, France, Holland, India, Australia and other countries where such apparatus has already been installed and obtain or check conversion factors. If this method is adopted by TAPPI the desirable provision of a truly international standard method would probably soon be an accomplished fact.

B. Specifications of Apparatus Required

Disintegrator

The disintegrator is illustrated in Figs. 2 and 3, and consists of a brass removable container A, brass propeller and phosphor bronze shaft B driven by leather belt from an electric motor.

The inside dimensions of the container are 6 inches diameter by 7½ inches high, and the inside is provided with four spiral baffles made of ¼ inch x ¼ inch copper rod with rounded ends. The center of the ⅛ inch radiused end of each baffle commences 1½ inches from the bottom and ends 2¼ inches from the top, having gone exactly halfway round the circumference. The edges of the baffles are rounded 1/64 inch radius. Round the bottom of the container is a fillet with ½ inch radius. The container base is bevelled and fits into bevelled lugs. It is secured by the sliding clamp K and a pin in the bevelled base prevents its rotation.

The propeller is 9 cm. diameter and is built up of three 1/16 inch hard brass blades set at 120 degrees, sweated into milled slots in a hub which is fixed to the end of the propeller shaft by means of a standard conical seating, nut and washer. The blades are sloped 2 degrees to the horizontal and arranged to throw the stock downwards; the blades are 18.2 mm. wide at the junction to the hub, and 22.5 mm. wide at their tips, where they are radiused 4.0 mm. The edges of the blades are radiused 1/32 inch.

The shaft B is arranged to be slid up out of the way of the container by loosening the collet chuck C, which grips the shaft to the driven pulley. The driven pulley on a hollow shaft runs

on ball bearings in the housings D.D., and at the upper end of the shaft is a worm wheel E, fixed to the shaft by means of a grub screw, and geared to the revolution counter F by a 25:1 wheel. The thickness of the spacer washer G is such that when the propeller is pushed right down the bottom edges of the blades are 1 inch from the bottom of the container. The upper portion of the clamp K is made 1 inch wide and may conveniently be used for checking this height.

From the motor pulley the ¼ inch round leather belt passes over the idler pulleys at H and the tension of the belt is adjusted by means of the screw at H, which swings the axle of the pulleys away from the casting.

The ¼ h.p. motor is arranged for either a.c. or d.c., a.c. being preferable as the drop in speed when the propeller is immersed in the stock is only about 1 per cent, whereas with a d.c. motor the drop may be as much as 8 per cent. The speed of the propeller may be altered appreciably by means of the belt tension. Care should be taken to check the speed if the belt is replaced by a new one, as a variation in the diameter of the belt also affects the propeller speed.

The worm wheel and eccentric for the counter arm should be kept greased, otherwise the counter arm is liable to wear, and after a time the counter ceases to function correctly. If wear takes place the trouble can be remedied by loosening the clamping screws on the boss of the arm and resetting it.

Care should be taken not to bend the propeller blades when removing the propeller from the shaft. It is best detached by fitting the jaws of an adjustable spanner over the hub and tapping the top of the spanner.

Note that the vital parts of the above specification are (a) details of the container (b) propeller design and position (c) propeller speed.

Sheet Machine

The complete sheet machine fitted up is illustrated in Figs. 4 and 5.

The main parts of the machine consist of a base B connected by a drainage pipe and cock G to the sump; a wire-covered grid plate C (shown removed) on which the sheet is formed, and which rests in the top of the base; and a cylindrical container A, into which the stock is poured and which fits over the plate and the base.

The shape of the base B is clearly shown in Fig. 5, the outer trough for overflow water being connected to the sump by means of the brass pipe J. Around the top of the funnel of the base is machined a recess, fitted with a soft rubber ring on which the grid plate rests. The inside of the funnel is carefully machined and a removable 4-fin baffle made of 1/16 inch brass sheet rests in it. The function of the baffle is to prevent any possible swirling, the horizontal disc being placed over the drainage pipe to distribute the suction uniformly over the grid plate.

The grid plate is perforated all over with ¼ inch diameter holes spaced ⅜ inch, with a few 3/16 and ⅛ inch diameter holes round the edges. A succession of 1/16 inch annular grooves are cut in the plate on the side on which the wire lies. The wire on which the sheet is formed is 150 mesh, and is backed by a 20 mesh wire, both being stretched flat and soldered to the edge of the surface of the plate. This operation requires considerable skill, and the use of special clamps so it is advisable to have the plates returned to the makers for recovery when necessary.

The top part of the apparatus, the container A, is built of ¼ inch thick brass tubing, 15¾ inches high and 6¼ inches diameter inside. A groove is cut 350 mm. from the surface of the wire. The bottom of the cylinder is stepped out to fit over the base of the instrument and carries a soft rubber ring which makes contact with the grid plate. The cylinder is made to lift on and off quite easily, and its weight is sufficient to cause a watertight joint to be made on the upper and lower edges of the faces of the plate with the help of the soft rubber rings.

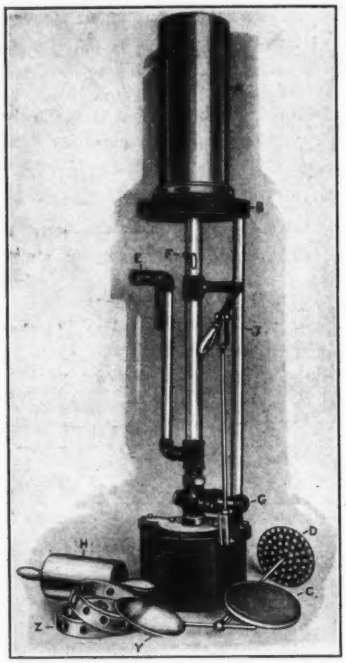


Fig. 4

The pet cock F is placed in the drainage tube 6 inches down from the surface of the wire.

The drainage valve G is operated by the lever mechanism shown in Figs. 4 and 5.

The sump is shown clearly in Fig. 5. It consists of a cylinder (D-844) with an outlet screwed 2 inch gas either in the side as shown, or in the center of the bottom if required. Three lugs are provided for screwing the sump to the floor.

A cross bar carries a circular apron to prevent splashing, and bolted to the underside of the bar with distance pieces is an overflow vessel. The distance from the surface of this vessel to the top of the wire is adjusted to be exactly 800 mm. This is the suction head on the wire.

The drainage pipe, the bore of which is 1¼ inches, is connected by means of a 1¼ to ½ inch T piece and ½ inch elbows to the water supply valve E.

The perforated stirrer is shown at D Fig. 3. The brass disc is 6⅛ inches diameter and is perforated with 60, 7/16 inch diameter holes. All edges are carefully rounded so as not to collect fibers when the stirrer is used.

The couch plate is of hard sheet brass 6¾ inches diameter by 0.016 inch thick.

The couch roll (shown at H Fig. 4) is made of brass; it is 4 inches diameter with 7 inches face, and weight 13 kg.

Note: Owing to the accuracy required in the construction and dimensions of the sheet machine and grid plates it is advisable to use a machine approved by and bearing the official serial number of the Paper Makers' Association of Great Britain and Ireland. Approved machines are now being manufactured in several countries.

Press

A side elevation and part section of the press is shown in Fig. 6. The cover D-801 is of aluminum and base D-800 is of close-grained cast iron. A hard brass disc 6⅞ inches diameter is properly bedded and fixed in the lid which is held down by means of the four 1 inch phosphor bronze studs and nickeled hard brass wing nuts. A handle on the cover is provided for lifting purposes. The base is recessed to contain a heavy rubber diaphragm, held

down round the edges by a brass annular ring with a large number of brass countersunk screws. A brass flat platen 6⅞ inches diameter, is loosely fitted inside the ring to rest on the diaphragm, and is prevented from coming out by four lugs D-813, which work in four shaped slots round the edge of the plate. The upper and lower surfaces of the brass plates are carefully machined flat. The

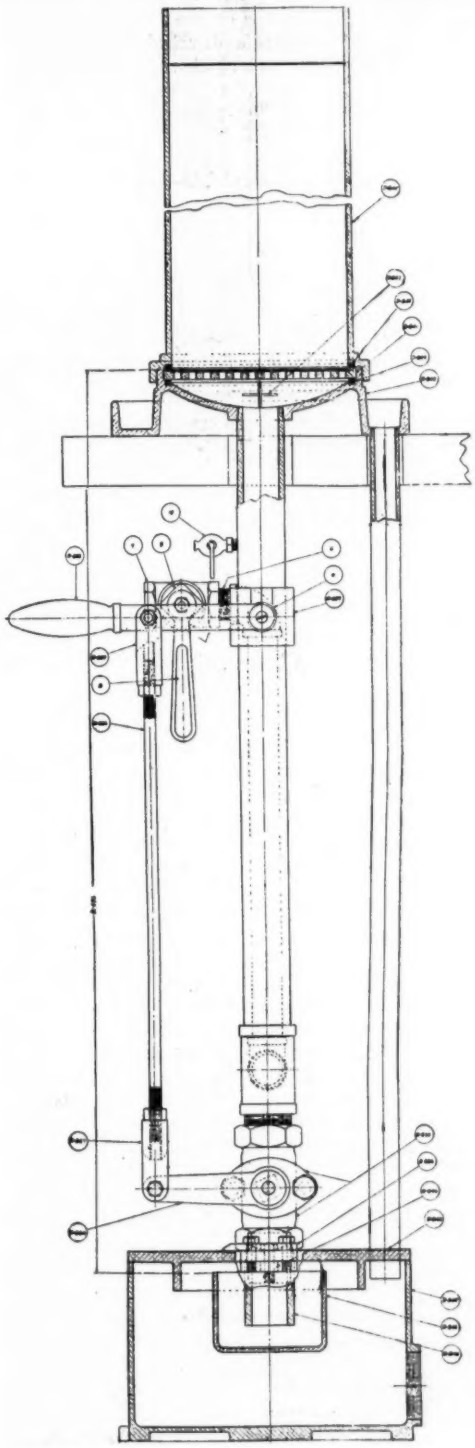


FIG. 5

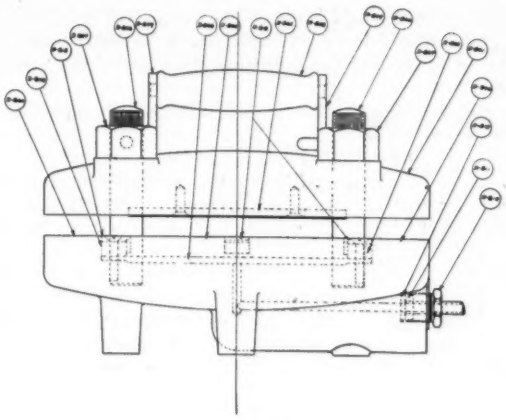


FIG. 6

working fluid (glycerine) is forced under the rubber diaphragm. The maximum distance through which the platen can rise is ⅜ inch. The machined surfaces of the cast iron base are well covered with aluminum paint to prevent rust.

From the construction of the press it will be noticed that the platen is free to float on the rubber diaphragm. This ensures that an even pressure is applied over the entire surface of the pile of sheets and blotters, and in this respect is superior to plunger type presses. The press should never be used for small pieces of paper, etc., as by virtue of the feature just mentioned, if a high pressure is employed the platen is liable to bend round the object being pressed.

PUMP

The pump is shown in Fig. 7. The body is made of gunmetal and has a bore of 1¾ inches and a 4 inch stroke. The pressure is applied by means of gunmetal plunger, which is actuated by a steel left-hand screw through a bronze thrust washer and nickeled brass handwheel. A cup leather, held in position by a shaped brass washer, prevents leakage. The leather and washer are screwed to the plunger and the plunger is prevented from rotating by means of a hardened steel screw working in a slot cut in it.

The pump is shipped with a gauge packed separately and screw plug in its place. To fill the pump and press with glycerine, the screw plug is removed and the special filler cup supplied screwed in its place. The handwheel is turned clockwise till the plunger is farthest in, and then the cup is filled with pure glycerine, while the handwheel is slowly turned to draw the liquid into the body of the pump. When the pump itself is full, the filler cup is unscrewed and the plug replaced. The screws round the annular ring holding down the press diaphragm are loosened several turns with a screwdriver, if not already loose, and the four screws and lugs holding down the platen removed. The handwheel is turned to force the glycerine into the press when the air escapes round the edges of the diaphragm. The platen is prevented from rising by hand pressure. As soon as glycerine begins to exude, it is wiped off the diaphragm and platen with a moist rag, the platen and lugs are replaced, and by tightening each screw in the annular ring in turn, a small amount at a time, the diaphragm is clamped in position. If the screws are not tightened uniformly the diaphragm will not be flat. It is undesirable to tighten the screws any more than is necessary to prevent leakage. The cover is put on and the wing nuts screwed hand tight. The plug is then removed, the filler cup screwed in and filled with glycerine by turning the handwheel forward—this eliminates a few air bubbles—and then the handwheel is turned backwards until it comes to the stop, the filler cup meanwhile being kept supplied with glycerine. The filler is withdrawn and the pressure gauge screwed into position. The press cover is removed and the

handwheel turned forward to its further extent. If the platen is felt to touch the lugs before the handwheel is fully screwed in, the gauge should be removed and the handwheel turned fully home so as to express the superfluous glycerine before the guage is replaced.

Both pump and press are mounted on a stained and varnished oak base, as shown in Fig. 7.

Note the above press and pump specifications are not vital provided that the apparatus used is capable of providing a uniformly distributed pressure of the same magnitude. This is equivalent to a pressure of about 60 pounds per square inch on the test sheets. A template for centering the stack of sheets in the press is necessary.

Press Template

The press template, shown to the right in Fig. 7, is of aluminum. The holes fit over any two adjacent studs in the press, when the semicircle 6¼ inches diameter is concentric with the platen of the press.

Drying Plates

The mirror-polished stainless steel plates Y, Fig. 4, are 6¼ inches diameter and about 0.020 inch thick. They should be free from bulges or uneven edges, and if any are damaged in this way and not capable of being repaired, they should be discarded. Before being placed on the sheet in the press, the smoothest side should be selected and well polished with a soft rag. The sheet will not adhere to dull or greasy patches.

Drying Rings

The drying rings (Z, Fig. 4), are made of hard brass and are arranged to fit into each other firmly, so clamping the polished plate and test sheet round the edges. The circumference of the sheet is gripped by the rubber seating and the plate pressed against this by the extended portion of the ring below. The air for drying circulates through the twelve ¾ inch diameter holes.

C. Procedure for Determining the Drainage Time

The standard drainage time may be obtained at the same time the standard sheets are formed. After the forming wire has been washed to remove any debris from the previous sheet made, the removable annular brass ring R shown in Fig. 8 is pressed into position over and against the soft rubber ring S inserted in a groove machined in the outside of the base of the sheet machine. The cylinder is placed on the base as usual and partially filled with water from below as for sheet making, but, before opening the drain valve to carry away the air in the drain pipe, the cylinder is first tilted forward so as to allow some water to rush out from beneath the cylinder into and to overflow the seal

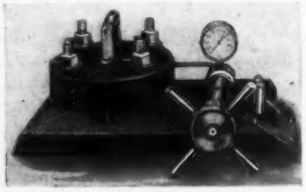


Fig. 7

ring, which action clears away the air around the joint between the cylinder and the grid plate and an effective water seal is formed. The ensuing procedure is the same as for sheet making except that the finally diluted stock mixture in the cylinder should have a temperature of 20 deg. C ± 5 deg. C. (effected by adding some hot or cold water to the stock), and after a preliminary stirring the temperature is taken with a thermometer to the nearest 0.2 deg. C. After the standard stirring and pause of 10 seconds, the drain valve is opened and the time taken in seconds for the formation of each sheet while draining from the 350 mm. mark to the wire is noted. The annular ring is loosened allowing the seal to empty, the cylinder is lifted off, then the annular ring is removed and the couching of the sheet follows. The sheets on which the drainage times are determined (a minimum of three sheets) are marked lightly with an indelible pencil and their average substance is determined separately after they have been subjected to the other physical tests.

The use of the seal ring[3] is not necessary unless for very precise work, as under ordinary circumstances the drainage time is not appreciably affected by one or two small air bubbles which tend to leak through or become detached from the edges of joints around the grid plate and which serve to reduce the suction applied by the column of water in the drain pipe to the underside of the sheet. For wet beaten pulp or pulps containing much loading material having drainage times of upwards of 20 seconds, its use is essential for accuracy. Water from a high pressure main is sometimes aerated in which case it may be poured into the cylinder after having been allowed to become degassed in an open container.

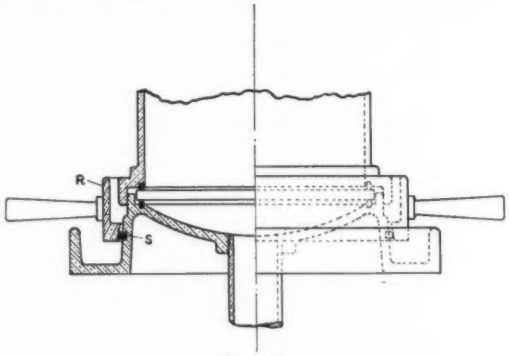


Fig. 8

Calibration

The spare grid plate supplied with the apparatus should be used to check the cleanliness of the grid plate in use at least weekly using some slow stock, and if the drainage time with the new plate is reduced, the grid plate in use should be cleaned by a steam jet, by scouring with weak acid after a weak alkali wash or by quickly dipping the plate in concentrated sulphuric acid, followed by prompt washing in water. The concentrated acid is effective in dissolving or removing any cellulosic material. The wire may also be cleaned in certain cases by inverting the plate over a Bunsen burner and carefully burning out the dirt. With this treatment, the wires will bulge out and care is necessary not to burn the wires or melt the solder. When the plate is cooled, the wires will return to their normal tautness and a very weak acid wash will complete the process. If none of these treatments is effective the spare grid plate should be put into use and the old plate returned to the manufacturer for recovering. With pure water at 20 deg. C. the drainage time with the grid plate in position should be 3.5 seconds. If higher than this, it is an indication that the drain valve is either dirty or else through wear its effective opening has become reduced in which case the plug is easily removed and the hole suitably enlarged with a file

Calculation

If the average drainage time obtained is "d" seconds, and the average temperature of the mixture in the cylinder is T deg. C., the standard drainage time for the standard conditions of 20 deg. C., and 60 grams per square meter (dry basis), is approximately:

$$d \times \frac{\text{viscosity of water at 20 deg. C.}}{\text{viscosity of water at T deg. C.}} \times \frac{(60 - k)\ \text{gms./M}^2}{(S - k)\ \text{gms./M}^2}$$

where k is a constant for a given pulp usually about 30, or less for very wet pulps, and where "S" is the average basis weight of the sheets on the oven dry basis.

[3] Suggested by H. H. Wheeland, Technical Service Dept., Mead Corporation, Chillicothe, Ohio.

(This formula has been suggested by Dr. W. B. Campbell of the Forest Products Laboratories of Canada. It does not hold for drainage times much less than 10 seconds, but in general stocks going to commercial paper machines have drainage times in excess of this.)

The viscosity of water at 20 deg. C. is taken as .01005 and at other temperatures given by the following table:

VISCOSITY OF WATER IN C. G. S. UNITS

Temperature deg. C	Viscosity
5	.0152
10	.0131
11	.0127
12	.01235
13	.01205
14	.0117
15	.0114
16	.0111
17	.0108
18	.01055
19	.0103
20	.01005
21	.00985
22	.0096
23	.00935
24	.00915
25	.00895
30	.0080
35	.0072
40	.00655

D. Additional Information

The above apparatus and methods are practically identical with the standard method adopted by the Papermakers' Assn. of Great Britain and Ireland and recently adopted as a tentative standard method by the Technical Section of the Canadian Pulp and Paper Association. The section on the DRAINAGE TIME and the EXAMINATION OF THE TEST SHEETS has been rewritten and the procedure for adding the stock to the cylinder and stirring it has been modified without sensibly affecting the final results.

The British method was originally devised so as to provide convenient means of carrying out tests on the Canadian standard freeness tester together with the sheet making. The potentialities of the sheet machine as a slowness tester were not then fully recognized; particularly the excellent correlation which the instrument gives with commercial paper machines running stock containing appreciable quantities of filler under which conditions the Schopper-Reigler type of tester is relatively insensitive. By omitting the use of the separate freeness tester and substituting the machine itself, minor simplifications in the method have been made possible.

An aluminum casting has been substituted for the original heavy cast iron press lid which makes it very much easier to handle.

For further particulars of the original method, together with very complete experimental data, reference is made to "The Interim Report of the Pulp Evaluation Committee to the Technical Section of the Paper Makers Association" obtainable from The Technical Assn. of the Pulp and Paper Industry.

An excellent and very informative paper by Harrison[4] contains a great deal of experimental data on the operation of the apparatus and methods, on pulps beaten with a Lampen single ball mill. While the use of this beating implement for precision work is open to some criticism mainly because its action depends on slippage and is not positive, nevertheless the suitability of the sheet making equipment and the method for forming sheets from beaten pulps is admirably demonstrated.

At the Annual Meeting of the Canadian Pulp & Paper Association in 1931, was published the results of an investigation[5] into the method by the Forest Products Laboratories of Canada employing both, free and slow groundwood, sulphite, kraft, and soda pulps. A close relationship between the resulting strength of the pulps and those obtained by the existing Canadian method (a slightly modified Genberg-Laymon method) was indicated with reproducibility in favor of the British apparatus and method[6]. A further report of comparative tests on several sheet making machines and methods, presented at the annual meeting in 1932 definitely confirmed the superiority of the method described.

A concurrent independent investigation by Laymon[7] between the Genberg-Laymon method and the British method gave similar indications. Some experimental conversion ratios are also given in that paper. Reference is also made to a discussion[8] of the differences between the two methods at the 1930 fall TAPPI meeting in Erie when the apparatus was first demonstrated in this country.

E. Wet Strengths of Pulps

In the Forest Products Laboratories of Canada Quarterly Review, issue No. 4, p. 13, and issue No. 5, p. 176, January, 1931, a description is given of the Campbell wet strength test which is especially adapted to the sheet machine described. A sheet is formed by the standard method and after the cylinder is removed a piece of moist flannel is spread smoothly on the sheet. Three blotters are then placed on the flannel followed by the brass couch plate. The couch roll is applied and moved five times in each direction then removed. The blotters and flannel are taken off exposing the sheet and the air cock is opened. The bursting device is then applied which consists of a rubber stopper fitted over a glass tube of 15 mm. inside diameter and connected to a manometer containing water dyed with congo red, and to a suction pump through a pressure regulator. The maximum pressure developed in a manometer is the wet bursting strength. Several tests are taken over the surface of the sheet and the pulp used for making each sheet is collected and its dry weight obtained. The wet burst factor is obtained by dividing the average manometer reading in millimeters by the average basis weight of the sheets in grams per square meter. It is stated that very little variation is noted for individual tests.

F. Measurements of Hydration

The following method due to Strachan[9] has been found to give good results with the equipment.

At least two and preferably three sheets, each weighing 12 grams oven dry (60 gms/M²), are formed and couched in the usual manner. Each wet sheet is quickly peeled off the blotter to which it adheres and placed between two 7 x 7 inch pieces of 150 mesh wire. Three blotters are laid in the press and the first sheet between the wires is centered upon them with the press template, followed by six blotters then the next sheet between the wires and so on, the final sheet between the wires being covered by three blotters. The pile so formed is pressed for two minutes at exactly 20 pounds per square inch gauge pressure and the test sheets quickly separated and weighed together in a balance to the nearest centigram. They are then placed in an oven at 105 deg. C. till dry and reweighed. The hydration is expressed as water retained per gram of oven-dry pulp.

The measurement of hydration by boiling, recently suggested by Le Compte[10], is efficiently performed by obtaining the differences of the drainage times of stock according to the standard procedure and similarly after boiling the stock in water for an hour. For free stocks, however, it is preferable to use the drainage times obtained from 3.0 gram sheets (150 gms./M²). It is suggested that the hydration should be reported as a percentage as follows:

If T = drainage time in seconds before boiling, and
If Tb = drainage time in seconds after boiling, then

$$\text{Hydration} = \frac{T - Tb}{T - 3.5} \times 100 \text{ per cent, 3.5 seconds being subtracted}$$

from T as being the time required for the drainage of water alone.

G. Testing of Board Stock

Pulp suitable for board manufacture is as a rule relatively weak

[4] H. Ainsworth Harrison. "The Beating of Wood Pulp in the Laboratory and Mill." World's Paper Trade Review, Dec. 5, Dec. 12, and Dec. 19, 1930. Discussion Jan. 9, Jan. 16, Jan. 23, 1931. Proc. Tech. Sect. P. M. A. Vol XI, part 2, March, 1931.

[5] W. E. Adlington, C. G. G. Jones, G. Alexander, J. R. A. Legendre, "A Comparison of the Canadian and British Methods of Preparing Test Sheets."

[6] See also report of Canadian Committee on Chemical and Physical Standards. C. P. P. A. Proc., Jan., 1931.

[7] Howard W. Laymon, "American and British Pulp Testing Methods." Paper Trade Journal, June 25th, 1931.

[8] James d'A. Clark, "The British Standard Methods of Sheet Making and Testing." Paper Trade Journal, Sept. 18, 1930.

[9] James Strachan, "The Hydration of Cellulose." Proc. Tech. Sect. P. M. A., Vol. VI, Part 2, March, 1926.

[10] T. R. Le Compte, "Hydration Measurements by the Boiling Method." Paper Trade Journal, October 1st, 1931.

and relatively free, and often contains quantities of shives, consequently it is suggested to use 150 grams per square meter as a standard basis weight for testing this class of stock, employing 1000 cc. of stock at 0.3 per cent consistency for each sheet and determining the drainage corrected to 150 grams per square meter and 20 deg. C. Four pieces of blotting are employed for couching in place of the two required and two dry blotters in place of the single blotter required in both first and second pressings, the rest of the procedure for disintegrating and testing remaining the same as for paper making stock.

H. Modifications for Routine Control Work

The standard method described for using the apparatus is obviously unsuited for routine control work where time is an important factor, as accuracy has been in no way sacrificed for speed. The apparatus taken by itself, however, is capable of being used to form sheets according to practically every method heretofore proposed, and if experiments are undertaken to obtain standard conversion factors for the type of pulps being tested and the method employed, the test results may be converted before being reported to approximately those which would be obtained by using the standard method.

A very speedy and simple method suited for groundwood mill control has been described by Clark[11], in fact the forerunner of the present apparatus was designed in Canada especially for that purpose, but its potentialities as a freeness tester were not then realized. No relationship could be established between the freeness readings for groundwood on the Schopper-Reigler type of apparatus and the subsequent behavior of the stock on the paper machine but recent work has demonstrated that the use of the apparatus as a drainage tester for such purposes gives a very good correlation. A suggested method accordingly is as follows:

A sample of pulp is taken and squeezed in the hands until it is felt to be about 10 per cent consistency and a piece of pipe 2 inches x 2 inches diameter filled with the prepared sample and levelled off. The measured quantity is made up with water to 500 cc., stirred up and poured into a 6 inch diameter Buchner funnel constructed from copper, over the perforated bottom of which is laid a removable circle of 70 mesh wire which is conveniently held in place by means of a split circle of 1/8 inch diameter spring brass wire. Suction is applied to the flask or the container into which the funnel is fitted until the stock has drained, which usually takes about ½ minute. The funnel is lifted off the flask and by giving the end a short sharp blast the wad of pulp is removed. The edges of the wad are discarded as they are often a little wet, and the remainder is used to weigh out a quantity of stock corresponding to 2.5 grams oven dry pulp. The dry fiber content of the wad is about 15 per cent but the actual average values for each apparatus for a number of pulps should be determined by experiment. When weighing unscreened pulps, the wad should be pulled apart into small pieces and any large slivers which appear should be discarded.

In the case of pulp from wet machines, it is usually sufficient to assume the moisture content equal to the average and the equivalent of 2.5 grams weighed out directly.

The pulp is made up to 500 cc. with water and shaken in a bottle or stirred, and divided, each half of the stock containing 1.25 grams of dry fiber. Two sheets are made in the usual way, the drainage time in seconds being noted. After couching, the first sheet attached to its couch blotter is laid on two dry blotters in the press, covered with two more blotters, then the second sheet and couch blotter, which are covered by two more blotters. The press lid put on and the pile is pressed at 50 pounds per square inch gauge for 3 minutes. The sheets are then separated from the blotters, placed in an oven at 105 deg. C. for 10 minutes, when they should be dry. They are removed from the oven, immediately weighed, then tested preferably for bursting strength. A correction for substance is applied if necessary to the drainage time and the burst factor of the sheets determined. The bursting strength of the sheets so tested will be about 10 per cent higher than if made and tested according to the standard method.

It is clear that between the very rapid method described, and the complete standard method, any suitable routine method can be devised to meet any required conditions. Where substantially unbeaten stocks are being tested, the double pressing may be dispensed with for convenience and the sheets given a single pressing for 5 minutes at 50 pounds per square inch gauge pressure without using the plates and the sheets are separated from the blotters and dried in the humidity room for testing. Some of the results will be nearly the same as with the standard method, because the gain in strength due to shrinkage in this case is nearly equal to the loss of strength occasioned by the omission of the second pressing. An allowance will have to be made for the decreased diameter of sheets made in this manner for the basis weight determination.

An excellent method of drying and conditioning the sheets has been developed recently by the Forest Products Laboratories of Canada which shortens the time required for both to about one hour, while still conforming to the standard procedure. The apparatus consists of a closed box provided with one or more 6 inch vertical slots in its sides inside and against which the drying rings are stacked. An electric fan blows air into the box through a circular opening which passes out through the holes in the drying rings and over the sheets. The whole apparatus is kept in the constant humidity room.

Cottrall, Prior and Baker[12] have published, together with perimental data, an accurate method of pulp testing based on the described apparatus and method but employing a special drier for the purpose so as to have the test results completed in four hours.

An accurate rapid drying method involving the use of heat is well justified when results are wanted very quickly but it requires additional equipment and adds to the complications and necessary steps in the method given and moreover only with difficulty could it be made more comparable with commercial drying conditions. On a paper machine the web is dried under tension at about 180 deg. F. in a very few minutes, which in effect gives the paper very similar characteristics as when dried at normal temperatures over a longer period on the plates and under the uniform tension naturally produced by shrinkage. The percentage stretch of test sheets made from paper machine stock according to the standard method will be found very similar to the average of that of the machine made paper which, after all, is the real proof of the correctness of the procedure.

[11] James d'A. Clark, "Pulp and Paper Manufacture in North America." Proc. Tech. Sect. P. M. A., Vol. VII, Part 2, March, 1927, pp. 242-243.

[12] Leslie G. Cottrall, P. H. Prior and L. G. Baker, "A Rapid Method of Sheet Testing." World's Paper Trade Review, Oct. 30, Nov. 6, 1931. P. H. Prior, Paper Trade Journal, Dec. 17, 1931.

Braille Paper

At the request of the Library of Congress, the Bureau of Standards is studying the properties of Braille papers used in books for the blind, to secure information that will assist in the selection of paper for books to be purchased by the Library. So far as is known there are no standards for such paper. Tests of eleven different papers both printed and unprinted, from eight different printing concerns show that quite a variety of papers are being used for this purpose. The special requirements of this paper is that the embossed points forming the printed characters have sufficient resistance to crushing and do not feel harsh to the sensitive fingers of the blind. The former property is being tested by measuring the extent of crushing of the individual characters under a fixed load. This is found to have a close relation to the tensile breaking strength and elongation of the paper under the tensile stress. The type of paper that appears to be most suitable for the purpose is similar to a heavy, thick, strong ledger paper with rosin sizing only.

Section of the

COST DEPARTMENT

of the

American Paper and Pulp Association

Edited by Thomas J. Burke C. A. Director Cost Dept.

Rational Manufacture*

By Allen Abrams[1]

CHAIRMAN, J. H. NEAL: I have the very great pleasure now of introducing Mr. Allen Abrams, who is Technical Director of the Marathon Paper Mills Company in Wisconsin. Mr. Abrams is going to talk on "Rational Manufacture," which he states is sufficiently large and comprehensive in its scope to enable him to discuss anything from the present salary of Babe Ruth to the possible candidate of the Democratic Party for the presidency. Mr. Abrams! (Applause)

ALLEN ABRAMS: Looking back at the activities in the paper industry twenty years ago I was struck by the fact that people then had many of the same problems we have today. There was over-production and prices were too low; Chief Forester Pinchot said that our forests would be done in twenty years (but some wood was selling as high as $15 a cord then and I'm sure you can buy plenty at $5 today); cornstalks were widely advocated as a substitute and one distinguished gentleman predicted that materials other than wood would shortly be the principal sources of fiber; there was a million dollar project for making peat into paper.

Developments in Past Twenty Years

I mention these things to show that we have undergone technical cycles in the very twenty years which have witnessed more interesting developments than in any previous century. The telephone, electric light, movie, radio, automobile, and airplane have focussed our attention so much on technical progress that we have passed from a fixed to a flexible state of mind.

Men in the paper industry twenty years ago might admit that there was nothing more to learn but you will not find many of these left today. So when I speak of rational manufacture there is the initial hypothesis of receptive minds because such manufacture proceeds on a definite, factual basis.

To illustrate our ideas let us take for an example the operation of a sulphite mill. Suppose that this mill has never attempted any form of control but is now considering it.

Relation of Various Departments

Our first step will be to find out the relation of the various departments to one another, policies regarding purchases and selling to customers, because these will have a bearing on the work we are to do. Thus the woods department may be committed to certain mixtures of wood; geographical and economic factors may necessitate the use of a certain grade of limestone; customers may be demanding certain standards of cleanliness, strength, and bleachability in the finished pulp.

The Actual Operation

The next information required will concern the actual operation. What type of equipment is used in various procedures and is it best fitted for the job? How is the wood barked, knotted and washed? What is the screen analysis of the chips? Some of you gentlemen may smile at that question and yet the penetration of cooking liquor, the time of cooking and quality of pulp are certainly dependent on this factor.

In the matter of acid making it is of very great importance that the strength of sulphur dioxide gas be studied and that the presence of sulphur trioxide be determined. The proportions of free and combined and the total strength of acid must be studied and the seasonal variations observed.

Digester Operation

Digester practice will require the greatest amount of study and consideration. What is the present practice as regards steaming, relieving and blowing? Do the cooks follow a curve or do they rely on their own judgment? Are the strength, color, cleanliness, screenings and bleachability of the pulp reasonably uniform?

Washing, Screening and Bleaching

And so we can go on through washing, screening and bleaching until after our study is complete we shall have a good history of present operating practice. Whereupon the next step is to see what can be done to improve conditions and to set up definite operating standards. Let us say that your chips vary quite widely in screen analysis and in sawdust content. Then the answer is to see that your chippers are kept in proper operating condition and that your screens are not over-crowded.

If your burner gas varies or if the temperature of your system acid fluctuates then you are going to have difficulty in keeping the proper total and the right relation between free and combined. You will need better operation in your sulphur burners and you may require summer refrigeration in your acid plant.

If you have always cooked digesters as an art I am con-

* Delivered before Cost Dept., American Paper and Pulp Association, New York, February 16, 1932.

[1] President, Technical Association of the Pulp and Paper Industry and Technical Dir., Marathon Paper Mills Co., Rothschild, Wis.

fident that a study of pulp quality will reveal such wide variations as to make you sit up and take notice. Undoubtedly you will be satisfied to make a try on cooking to a curve; and if you select the curve properly and stick to it I think you will be surprised at the results.

Reducing to Simplest Terms

Now when you have gone through your mill and set up suitable tests and standards I would say reduce them to the simplest possible terms. Make your tests carefully but only as often as they are needed; put the results so that your operators will understand and use them. Chart or record them from day to day as they will give you an excellent operating history.

By this time many of you are thinking that all of this sounds good but you would like to know if it actually works. I can answer that because I have seen exactly this type of procedure put through a mill and the results can be shown by these charts presenting strength on pulps before and after standardization was instituted. From these typical days you will note that prior to control the range of strength was from 60 per cent to 98 per cent Mullen test with an average of 84 per cent; after control the range was from 90 per cent to 100 per cent with an average of 96 per cent. Other qualities were also improved and the accountant told me that this work would pay for itself in less than six months and would yield a handsome dividend thereafter. Possibly one of the best rsults too was the fact that standardization of pulp quality assisted the paper mill materially in producing uniform, better grade papers.

The Paper Mill Operation

In a similar way, study of your paper mill operation and of customer usage enables you to specify and produce grades which will do the job satisfactorily. Let me stress again the necessity of setting up specifications which will suitably cover the important characteristics of the paper but which will not be too elaborate. Technical control can be overdone and may be detrimental if carried to absurd limits. But when used with judgment it is essential to the formation and progress of such companies as DuPont, General Electric, General Motors and many others whom you see listed on the New York Stock Exchange.

Knowledge, Experience and Application

But let me impress upon you that knowledge, experience and close application are necessary to produce a workable manufacturing set-up. You can't go out and pick these up at any crossroad. It will cost you time and money and headache—if not heartaches. So when you have once worked it out hold fast and don't let go for any temporary expediency. Aladdin had great success as long as he held on to his lamp; but he never fully appreciated its value until someone stole it from him and he was finally able to get it back.

Japanese Paper Production in 1931

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 23, 1932.—The Japanese Paper Manufacturers' Association reports an output of 665,292 short tons of paper (including paper board but exclusive of straw boards) during the calendar year 1931 compared with 683,767 short tons during the corresponding period of 1930 while sales during the same time showed a corresponding decrease from 673,594 tons to 664,793 tons according to a report from Trade Commissioner Steintorff at Tokyo.

COST SECTION

New Ryther Shredder

The Ryther 700 Shredder, manufactured by the Ryther & Pringle Company, of Carthage, N. Y., has been developed with the purpose in mind of providing a machine to withstand the severe service demanded of equipment of its type with incorporated flexibility of design which will render it efficient and applicable under various conditions. The side frames are sturdily constructed of cast iron and connected by a heavy grey iron spreader casting which supports the bed or land bar assembly. The land bars are made of a special abrasion resisting steel. The shredding rotor consists of a forged steel shaft upon which is assembled a series of toothed circular steel blades of different diameters alternated between cast iron spacing collars machined to a slight angle from 90 deg. to the axis of the arbor, thereby causing a wabble action.

Self-aligning Timken roller bearings assembled in barrel form and supported in adjustable cast iron stands mounted on the main frame permits high speed operation at a minimum of power and maintenance cost. The blades may also be removed without disturbing the adjustment of the barrel.

The shredding blades engage the pulp at the edge of the land bars and tear it into ragged particles which are susceptible to quick moisture penetration. The fibers are not cut or compressed by this tearing action. A special lever controlled internal gear speed reducer and automatic belt tightener assembled on the feed drive shaft and driven by a belt from the rotor provides proper speed for the feeding rolls and permits instant stopping or starting of the feeding mechanism. The rolls are driven through sprockets and roller chain from the feed drive shaft. The top feed roll is adjustable to any desired elevation by means of a hand screw, making possible quick changes for various forms of stock.

The standard Ryther 700 Shredder is equipped with a sheet metal feed table, though provisions have been made whereby a belt apron feed may be substituted if desired. This flexibility of design also renders possible the attaching of a belt conveyor by extending the front apron roll shaft and providing auxiliary drive. The new hood, which is equipped with a brass shower pipe, is so designed as to completely eliminate all air currents over the feed table.

The Ryther 700 Shredder is adaptable to varied mill conditions and reduces all grades of kraft, sulphite and ground wood pulp and paper stock of every description to pieces of uniform size desirable for bleacher or beater furnish. The capacity of the Ryther 700 Shredder is rated at 5 dry tons of kraft per hour. Power required is in proportion to the rate of production at which the machine is operated—50 hp. is recommended for maximum capacity. The speed of the rotor is 1500 r.p.m. and the shipping weight is 5500 pounds.

New Paper Sample Book Out

Hugo Brusewitz Aktiebolag, of Gothenburg, Sweden, has just issued the first edition of the "Paper Sample Book of Sweden, Norway, Denmark and Finland." This book will supply an actual want and be of valuable service to all engaged in the manufacture of paper and board.

The sample book gives by type samples of a great number of papers and boards, direct information about the manufacturers of each particular variety, and is a most convenient and useful reference book. It is intended to be a handy and useful supplement to the Paper and Pulp Makers' Directory of Sweden, Norway, Denmark and Finland, published by the same organization.

Some Random Thoughts on Paper Making*

By Joseph H. Wallace[1]

I was recently amused by a statement made by Dr. A. D. Little, the eminent paper chemist, in his book "The Handwriting on the Wall." He said, "There has been for generations a comfortable opinion among many of those engaged in the manufacture of paper, that an understanding of its mysterious operations was inherited, like red hair."

He also said, "A chemist can tell a born paper maker, but the telling stops right there."

I have, in my early days, met several born paper makers, but I believe the species is now practically extinct.

I am not going to attempt to solve any problems here tonight for several reasons. It is much easier to criticize. Many years ago the writer was turned loose with an engineering education, at least that was what he thought. One of his first acts was to get his dilplomas framed—then came the building of a note book of engineering data—now I can't find either the diplomas or the note book, but they do not seem so important as they did.

After years in the paper industry, we have found out a number of things that don't work, so now there are comparatively few mistakes left and our percentage of good ought to be high.

It appears to me that I have misunderstood the subject on which I am to talk as I have just learned that it was expected that my discussion would be a technical one. Perhaps I am flattering myself. Any thoughts that I can offer for your edification must perforce be random thoughts, with the accent on the last syllable.

I must confess, however, that I can no longer classify my knowledge as technical, if indeed there is enough accumulation of knowledge to require classification.

I am just now completing my first year in the mill equipment field. One of my friends commented on my entering this field by reference to a certain mythical jackass to whom the fields unforaged always appeared green. Just between ourselves, that wasn't the only reason for deciding to devote my time to machinery for paper mills.

In spite of the stock and commodity markets the past year has been most interesting. It was like going back to school as a freshman.

There are several improvements in the art of paper making that have helped make me happy during the past year.

At one of the recent attempts to tell about paper making I was asked to change the subject of the talk to "How to be happy though a paper maker." I have thought about this suggestion and perhaps I may some day attempt such a formula, but I believe I'll wait until after this slightly subnormal market has recovered. Happiness, however, is said to be a reasonably easy state of mind to maintain. Of course, one must know oneself. There's the rub! Then you have to know some of your contemporaries. That's practically impossible.

Some are happy regardless of their circumstances—some never are. You probably recall how in one of Kipling's tales the jolly mariners who went to Heaven and sat on golden flowers strumming on harps finally rebelled and asked God to send them down to the sea in ships.

The happiest men in the world are those who, having only one urge, also have the energy and intelligence to get what they want and are lucky enough to have an ambition that is approved by the community in which they live.

Someone has said "Only madmen crave the same thing steadily," but what about those who take an interest only in eating? Their happiness is not founded on self knowledge. It is the happiness of the potato as it swells and grows and absorbs fertilizer.

In these dark days we may be magnifying our own little troubles when really we ought to be congratulating ourselves that they are no worse. Let's stop talking about our troubles. You may become less unhappy if you keep after obsolescence, that is, if you have a mill that has any future at all.

The Handicap of Obsolescence Is a Bugbear

Look over the plants in these United States and see which kind of proposition you have. There are only two general classes of mills at any given time. First, those that are through, even though the owner doesn't know it. Second, those that are fundamentally sound as to raw material, market, power and fuel and labor. If any of these factors of production cost are out of line the wise paper mill owner will look for a way out.

The valuation of your property may have no relation to the replacement cost of the buildings and equipment. The main question is, would you want to replace it—if a providential fire made it possible to sell it to the insurance companies?

In studying tax cases for some of our customers, the writer has recently had his old job of testifying as to depreciation and obsolescence, which, according to the rulings of the Income Tax Bureau, are classified together. It appears that away back in the dark ages TAPPI fixed some rate of depreciation in a discussion of the subject with the bureau. I am of the opinion that these rates should now be reviewed and an attempt made to bring them into line. The advances in the technique of paper making have gone hand in hand with the advancement in paper mill equipment. These advances may, perhaps, be shown graphically by noting the record speeds of paper machines from time to time. The paper machine sets the pace and all else must keep up with it.

The record speeds of paper making were made on newspaper, but they were accompanied by general increases in speeds all along the line so they may be taken as typical of the industry in a study of obsolescence and its effect on depreciation.

The first hundred years of the Fourdrinier machine were the hardest as is usual with pioneering in any field. During that period some brilliant names were written on the pages of paper making history. The following names appear to deserve listing in a paper makers' Hall of Fame—if, and when, one is established.

Louis Robert, who invented the paper machine, Leger Didot and John Gamble who improved on the idea, Bryan Donkin who actually made it a real machine. Henry Fourdrinier and Seely Fourdrinier, who financed it—brave men! Thomas Cobb, who invented jackets on couches. John Dickinson, who invented presses and reversed the second press. John C. Phipps who invented the dandy roll. A. Canson, who first applied suction to the wire. Messrs. Phelps and Spafford, who built the first paper machine

* Presented at meeting of the Lake States Section of the Technical Association of the Pulp and Paper Industry, Appleton, Wis., January 12, 1932, and repeated by request at meeting of the Michigan Division of the American Pulp and Paper Mill Superintendents' Association, Kalamazoo, Mich., January 21, 1932.

[1] Engineer, Development Department, Black-Clawson Co., Hamilton, Ohio.

made in U. S. A. Thomas Barrett, who invented tube rolls. James Harper, inventer of the Harper Fourdrinier. Jouffrey Cadet, inventor of the cone pulley drive. The machine developed until, at the end of a century, a 160 inch machine made paper at a speed of 500 feet per minute.

This brought the machine up to the model of 1895 at which date the widest machine was 160 inches and the record speed was 500 feet per minute.

One of my paper making friends recently suggested that if I wanted to be funny when I am making speeches, I should copy some of the recent Technical Association literature. The same man asked the Black-Clawson Co. for an estimate on a paper machine to run 3,000 f.p.m. with a trim of 600 inches. This question may appear funny to him, but it might not be so funny in another hundred years.

The 25 years from 1895 to 1920 saw a steady progress in both width and speed of paper machines.

In 1920 a 204 inch machine was running 750 f.p.m., that is to say, in 25 years the speed increased from 500 feet to 750 feet per minute, while widths went from 160 inches to 200 inches—25 per cent.

From 1920 to 1930 the increase was at a much greater rate, viz:

The speed went from 750 feet to 1,250 feet—66⅔ per cent—and the width of mill from 200 inches to 300 inches —50 per cent—that is, production speeds showed a sharp change in rate of increase beginning about 1917 and from that time until 1925 its effect on obsolescence and depreciation of paper mill machinery was startling.

In 1915 paper machine builders had definite standards of speed and production on different lines of product. A steady rate of increase had been noticeable. Then the situation suddenly changed and by 1920 a scramble for production was on. As a result of this drive, the model of today is a machine with little resemblance to its forerunner, except as to fundamentals.

Let us see what has developed in modern practice in building paper machines during the last few years.

On the Fourdrinier section, head boxes, slices and flow equipment now handle many times the quantity of stock and still try to get formation. Deckle straps have already disappeared, water, stock, white water piping and valves have been superseded by larger diameters. Pumps were speeded up to their limits, then replaced. Shaking equipment was forced to follow, suction boxes were oscillated, suction couches then suction presses replaced old equipment. Table rolls and wire rolls are larger and are balanced dynamically on account of increased speeds. Rails are much stiffer to stand increased shake. And so it appears that a Fourdrinier section built 15 years ago is obsolete. On cylinder machines the wet end changes are no less impressive. Piping, pumps, screens and mixing boxes are replaced. The vat arrangement has, in some instances, been fundamentally changed. Cylinder molds, couch rolls, couch brackets and arms are of new designs. Larger and more squeeze rolls and primary presses are needed.

On the press section of both Fourdrinier and cylinder machines a marked increase in sizes of rolls has followed the heavier duty required.

Modern press stands have hydraulic lifts, with conveyors to carry the wet broke off the machine. Doctors and felt cleaners are of new design.

Felt rolls, stretch rolls, wire rolls, in fact all small rolls must be balanced dynamically to operate satisfactorily at the higher speeds. Larger driers, or more of them, are required, Sheahan Carriers are needed to take the paper over at speeds beyond possibilities of hand feeding. New drier frames, hoods, ventilating systems and steam supply are required.

Calenders have larger rolls and more of them.

Driving the machine has been revolutionized, line shafts were speeded up to a point where rim speeds on pulleys became dangerous, then gear ratios were changed. Cast iron and bevel mortise gears were superseded by spiral bevel and hypoid gears. Clutches of new design, either multiple disc or magnetic, are here and the bearings throughout the machine are of types not available in 1915.

Removable bush bearings and anti-friction bearings are now standard practice.

Verily—"Trifles make perfection, but perfection is no trifle."

During this big unrest in the paper industry, paper machines have been rapidly improved to meet competition, grades have been shifted and machine builders are devoting most of their attention to rebuilding work.

The handicap of obsolescence is one that is most serious with many mills, and yet so far as I know, there has been no serious attempt to get proper allowances from the Income Tax Bureau in making up taxes. These ought to be based on observations as to the needed improvements. Obsolescence during the past 12 years has been at a far higher rate than is allowed by the bureau or asked for by TAPPI. Why not look this subject over carefully?

Looking ahead we can be sure that increased speed is certain and wider machines probable. It used to be an axiom that fine papers could not be produced at high speeds. Now tissue at 1,000 feet a minute on a 200 inch machine does not cause comment, but it calls for real improvement from one end of the machine to the other. Removable Fourdrinier sections, whether shaking only the breast roll or the whole wet end, are eliminating time and labor during the period of changing the wires, while high speed shakes, oscillating suction boxes and anti-friction bearings are but a few of these improvements that make a 1932 Fourdrinier or cylinder machine a pace setter. Actual dynamic balance is essential, and the accuracy of workmanship of today was unbelievable a few years ago. In these days when cash position is so difficult, the mill condition is a tough game to face, but what of the handicap of obsolescence?

Let us look at some outstanding improvements, those that appear to offer returns on investments.

Outstanding Achievements

First and foremost, I'd say that Ogden Minton's *Solvent Sizing in a Vacuum* has hit me the hardest. It is fundamental. This man Minton is a persistent fellow. When his vacuum drier was called on to handle heavily rosin sized papers, they came out of the drier perfectly good unsized blotting paper. As a result of investigations he found that paper can be sized in a vacuum drier by the use of solvents that would be uncommercial except by the almost perfect recovery obtainable in a vacuum.

This solvent sizing program that Minton now offers is well described by the inventor in recent articles which you have probably read. The Black-Clawson "Messenger" of December, 1931, is perhaps a good thing to read first as it attempts only a very general outline of the story. We have copies before each of you and I ask you to refer to the diagrams on pages 10-11.

By installing a Minton vacuum drier to replace all the present drying equipment the highest possible drying efficiency is available.

The smaller diagram shows a possible installation where the investment must be kept at a minimum. While the drying of paper cannot be as efficient by this installation,

this type of installation will undoubtedly have many applications.

Either type gives to the paper maker all the advantages of solvent sizing, with its wide range of fundamental improvement. The fact that many solvents are volatile at extremely low temperatures and that many gums are suitable for sizing is not new. In experimental work on extraction of rosin from long leaf yellow pine from 1913 to 1923 the laboratory of J. H. Wallace & Company developed information as to many available solvents that had low boiling points. When we read Mr. Minton's article on Solvent Sizing we were prepared to "see the light" and after spending several days in his laboratory at South Norwalk, Conn., we were sold 100 per cent on solvent sizing in a vacuum drier.

As we understand the subject of sizing paper, the history of the art shows that it has been working more or less successfully for over one hundred years, but no one has ever been able to prove that he knew exactly how it worked, or in fact to make it work evenly and uniformly under all conditions. It has generally been done by cooking rosin with caustic soda thus producing a rosin soap containing varying amounts of free rosin. This rosin soap is put into the beater with the stock in sufficient amount to give the required amount of rosin in the sheet.

The troubles and uncertainties of sizing by usual methods are familiar to all paper makers.

The theory of sizing has been the subject of much literature and discussion. Some experts claim that only free rosin is effective. Others claim that sodium resinate, or combined rosin, reacts with alum to form aluminum resinate and that this resinate is the active agent for sizing. A third theory involves mechanics. A fourth refers to sizing as a colloidal reaction. A fifth calls on electrolysis to explain sizing. A sixth says that electrical chemical and mechanical theories must be combined to explain sizing in beaters.

We do not pretend to understand all these discussions, but we have seen few paper makers who did understand them or why they do what they do and why they all have slack sized papers now and then.

All papers rosin sized in the beaters are inferior in pop (Mullen), tear and folding tests as compared with unsized papers of the same furnish, while solvent sized sheets show consistently better tests than the unsized sheets that were used for the demonstration.

The effect of alum on the fibers is well known, yet paper makers are demanding acid free sulphite and then adding alum from which sulphuric acid is developed in the wet paper by hydrolysis.

By solvent sizing at the dry end of a paper machine you can improve your paper and reduce its cost of manufacture. The chief points that bring this result may be listed as follows:

1. 100 per cent free rosin retention in the paper means less rosin.

2. Elimination of caustic soda and alum means savings in material, labor, steam and power as solvent sizing uses material that is recovered and the solvent dissolves rosin with almost no time, heat, labor or mechanical action.

3. Uniform sizing, regardless of weather or other variable conditions, is assured and, therefore, no excess costs are necessary to give the safety leeway required when variations in quality are produced.

4. Power in beating is reduced, freer stock (water leaf) runs faster on machine. Therefore, production is increased and cost reduced. Pop tests (Mullen) are brought up to requirements by solvent sizing with absolute determination of rosin in sheet, while tear and fold tests are materially improved.

This is particularly important on kraft papers where pop, tear and fold tests determine its market value. The southern and western kraft papers could be brought up to number one quality now recognized in some eastern kraft.

5. Stronger, more permanent, more uniform and cheaper products are available.

I do not mean to infer that Mr. Minton can in a moment become a Moses to lead the paper making tribes out of the depression—I think the possibilities of solvent sizing will only be reached after you chemists and superintendents have had time to study its application to your own problems. I recommend, however, that you begin to study it with no delay and I predict that it will have a tremendous effect on the paper industry.

The troubles of paper makers due to uncertainty of sizing are too familiar to us all to require comment. The fact that drying paper at low temperature is desirable was obvious. Mr. Minton gave me a new idea, however, when he stated that a drying temperature of 175 degrees to 190 degrees F. was essential to sizing. It was a privilege to spend time with him on the possibilities of adding new characteristics to paper by the use of a variety of gums—for example bakelite for making paper resistant to electricity—nitro-cellulose for making paper resist not only water and grease but alcohol! Think how important it would be in these days of prohibition if one could use one's paper drinking cup for a highball or cocktail and have time to sip it! The possibility of paper hip flasks is also important as the hip and mouth disease appears to be widespread.

The folding tests made are not consistent but indicate generally that folding resistance of solvent sized sheets of low rosin content closely approaches that of unsized sheets.

Regarding water proofing tests—it appears that even with ½ to ¾ per cent of rosin content, water proofing by solvent sizing appears remarkably good.

To study your own possibilities in a preliminary way no very expensive apparatus is neded.

An old fashioned clothes wringer mounted with the rolls horizontally over a pan will give comparative results. If you wipe the solvent off the rubber rolls they won't go into your paper very rapidly. Dip the sheets of unsized paper in the pan containing enough loaded solvent to completely immerse it. Pass the sheet through the wringer allowing the drip to run back to the pan. A little experimenting will determine what percentage of rosin remains in the sheet with given percentages of rosin in the solution. When this relationship is established you can be certain of obtaining uniform results if the conditions of the test are unchanged.

To get best results the paper should be dried in a vacuum. The temperature should never reach the swelling point of rosin when solvent sizing. The rosin film deposited in the sheet needs no high temperature.

From the preliminary study of solvent sizing and what I learned at Minton's laboratory I am convinced that sheets that are solvent sized will show a strength beyond the unsized sheets. If you will examine the possibilities of different percentages of rosin and different amounts of beating, jordaning, etc., I believe you will be able to improve the characteristics of your product or lower its cost by increasing production or both. It appears to me that it is up to you paper makers and technical men to work out your own problems—no one can do it for you.

In connection with the possibility of installing solvent sizing equipment on an existing machine, the thought has occurred to me that under the driers in many mills there

is a space of no real value. Why not run a stack of vertical driers from basement to roof, if and when the additions to your machines make it desirable?

A vacuum drier of say 5 to 7 driers arranged for solvent sizing can be put on the end of most machines without adding to the buildings.—Solvent sizing permits less boating and higher rate of production. It can be installed at minimum cost by rearranging your driers, thus adding materially to your drying capacity if desired.

This combination should be a real contribution to the gayety of paper makers if any.

You can now size with a variety of gums—without caustic soda and without alum. You can size and color at one operation at the dry end of the paper machine, or in your finishing room if you prefer. Extending the scope of the uses of paper appears to be one of the best things likely to happen—as a result of Minton's new thought.

Many of the necessary materials and processes used nowadays are available to us by reason of solvents. Some solvents provide fluidity to gummy substances, others serve as carriers only—others make possible the extraction of oils, gums, resins and other substances. Some are useful as cleansing agents because of their faculties of dissolving and removing foreign substances without injury to the product itself.

Recent developments of solvents have opened new fields of solvent usefulness. The chemistry of solvents is too deep for yours truly and we trust that we are too wise to say much about that subject.

One of our waggish friends from whose sage remarks we often steal "bon mots" once said "If I am asked what a substance is I always look wise and say it is one of the carbon compounds." Say that every time, and if opportunity to bet even occurs, bet on it and you will gain riches and be considered wise.

The principal solvents used commercially are closely related as to chemical composition but like human relatives they vary widely in physical characteristics.

The selection of a particular solvent for a particular job is the problem that some of you technical men will have—it's not my job.

There are two solvents, however, that are in wide use commercially that are of interest in this connection and will illustrate the possibilities of solvent sizing, viz: Carbon tetrachloride (CCl_4) is a heavy water white volatile liquid with a neutral reaction. It is non-inflammable and non-explosive. It is used as a fire extinguisher. It is relatively cheap, it is miscible with many organic solvents and has solvent power over a wide range. The fumes are not injurious to human health. It evaporates without residual odor and has no injurious effects on cellulose. It may be efficiently recovered and reused indefinitely. It may be used to reduce the fire risk of other solvents, which are inflammable. It is commonly used in the rubber industry for splicing acid, for non-inflammable rubber cements, and as a solvent for rubber cements used in impregnating fabrics. The recovery of oils from paper stocks, wood and cotton waste, oil seeds, etc., are further uses. It is a safe and convenient solvent for your preliminary studies and trials but it corrodes irons!

Ethylene dichloride ($CH_2Cl\ CH_2Cl$) is also a water white volatile liquid. It involves no real fire hazard as it burns only with difficulty. To make it absolutely free from fire hazard, add one volume of carbon tetrachloride to three volumes of ethylene dichloride. Ethylene dichloride is very stable in the presence of water, acids and alkalis and free chlorine, sulphur chloride and other active reagents do not affect it.

It is suitable for use in a cast iron vacuum chamber. It resists oxidation and may be stored, recovered and reused indefinitely. It has very high solvent action on oils, fats, waxes, wool grease, gums, resins, rubber and many alkaloids.

It is used widely in dry cleaning, scouring, as a solvent for lacquers and varnishes, for extraction of ethereal oils from flowers and vegetables and in the manufacture of penetrating oils and paints and varnish removers.

	Carbon Tetrachloride	Ethylene Dichloride
Specific gravity @ 20° C...	1.5947	1.257
Weight per gallon.....	13.28 lbs.	10.53 lbs.
Boiling point.....	76.8° C. (170.2° F.)	83.7° C. (182.6° F.)
Freezing point.....	23.0° C. (—9.40° F.)	35.3° C. (—31.5° F.)
Latent heat at boiling point..	83.7 B.t.u.	157.5 B.t.u.

Various mixtures of the above solvents have been used.

The tests of solvent sizing possibilities at Minton's laboratory were made as follows:

Paper of given stock furnish was received from the mill. Part of it was unsized and part of it was sized in accordance with the usual practice of that particular mill. The unsized paper was then solvent sized with varying percent of rosin content, say from 1 per cent to 5 per cent on kraft papers.

In considering the relationship of the Mullen strength to percentage of rosin with solvent sizing—the tests made indicate that the Mullen strength increases steadily with the increase in rosin content in a solvent sized sheet up to a definite point. For example 3 per cent rosin content the Mullen tests show from 10 to 30 per cent higher than in the same sheet unsized. It has been our experience that mill sized sheets will test 10 to 15 per cent lower than the same sheet unsized. This means that on kraft wrapping the solvent sized sheet will test 20 to 30 per cent higher than the beaten sized sheet of same stock furnish and the same beating.

Tests made on sheets on kraft paper with different amount of Jordaning showed widely varying Mullen tests as expected. It appears that a decided reduction in power with no reduction in Mullen test is available with solvent sizing. This leads to the thought that you can run your stock somewhat freer on the machine—thereby getting formation and more production while saving power per ton. That is beating and machining operations can be speeded up if you are sizing in a vacuum drier instead of in the beater. This is one of the important factors that ought to be seriously studied by all paper manufacturers and coupled with the possibilities of new characteristics in paper already mentioned is my principal reason for saying that this man Minton has bumped me hard!

The tear test shows that improvement may be expected from solvent sizing especially over the lower range of rosin content. This appears to be true up to about 5 per cent of rosin in a sheet.

When the sheet is heavily sized with rosin the tear is definitely reduced. This would be expected.

We have mentioned other gums and other solvents. You chemists know more about them than I do. I am somewhat like the old nigger who complained about the weather being "Pusillous." When asked what the word pusillous meant he said "Go look it up in the dictionary." A few days later he was told "That word 'Pusillous' isn't in the dictionary—now what *does* it mean?" And he replied, "If a word isn't in the dictionary how do you expect an ignorant nigger like me to know what it means?"—And I ask you "How do you expect a poor ignorant guy like me to know what solvent sizing in a vacuum means to you? And how can Ogden Minton tell you? I am sure that it will have a very wide application using many kinds of materials other than rosin and I expect to see the paper trade grab

at this life preserver and as a result of it spread the use of paper to a point where more demand makes better prices and full dinner pails and more contentment in this imperial industry.

There is another random thought that I am anxious to tell you about, viz: Frank Smith's recent installation of 33 36-inch driers on vertical stack formation and without drier felts, to replace 16 48-inch driers with felts on a Black-Clawson Fourdrinier machine in the Sorg Paper Company plant at Middletown, Ohio. Perhaps my thrill from this installation was partially due to the fact that it was my first sale of paper mill equipment. Any sale made in 1931 would always be an event, and if it happened to be your first sale—Oh boy!

When I became acquainted with Frank Smith I met a regular paper maker and found that one of my notions was shared by a man whose opinion is accepted by most of you paper people as worth listening to.

In the October "Messenger" we told about this installation and predicted that Smith would prove what the Black-Clawson Company have believed for some time, viz: that on a wide range of papers made on Fourdrinier machine, drier felts are a useless expense. I have here some pictures of the installation at Middletown, Ohio, and samples of paper dried on vertical driers without felts. The pictures show that this installation uses space effectively—and it shows a possibility of utilizing space to better advantage and of increasing drying capacity while making room for the addition of a solvent sizing drier on some of your existing paper machines. I am thinking aloud and rambling on and you all can believe it or not!

At the mill of the Beckett Paper Company in Hamilton, Ohio, a Fourdrinier machine has been operating on fine cover paper for some time with vertical driers having no drier felts. Since Frank Smith's installation the Beckett mill has ordered the rebuilding of their other paper machine along similar lines.

I presume that if vertical driers had not been so eminently satisfactory on board machines that they have become standard practice on cylinder machines, it would have been much easier to convince the operators of Fourdrinier machines that the vertical drier without felts is applicable to many varieties of papers that haven't yet been dried this way. Frank Smith says he is satisfied that there is no longer any reason to believe that drier felts are needed.

Centrifugal Separation of Stock and Dirt Is Another Thought

The past few years have witnessed a development of cleanliness to meet an increased demand for quality. Writing and bond papers *must* be clean and even on lower grades the printer and the electrical industry as well as all other users are asking for care and are getting it because of the keen competition for business.

There have been sand traps, rifflers, magnetic separators and screens of all shapes and sizes and while they all perform certain duties and make some improvements they leave something to be desired.

Sand traps and rifflers depend on gravity—screens separate by size of particles, and consequently have no big success in removing small particles of dirt or sand that will pass through the plates of the screen.

It is true that screening by size is of great value in preventing lumps and shives from passing to the paper machine. They will still be useful whatever is accomplished by centrifugal separation—though perhaps with larger slots.

Centrifugal separators depend on a force that may be as much as 250 times that of gravity—their action in separating dirt from paper stock is largely dependent on a difference in specific gravity—the theory being that the heavier particles including sand, dirt or metal dust will be driven by centrifugal force to the outside of whirling stock. These machines generally consist of a whirling cylindrical basket to which stock is delivered through an inlet to the bottom of the basket.

The heavier particles are delivered to the inside of the cylinder and then to a mat of stock forming against the side.

Baffles are suitably arranged with a view of holding back the mat to which dirt is delivered and lighter dirt that keeps to the inside of the mass. Material of the same specific gravity as the stock is often caught in the mass by friction.

Paper stock is not only cleaned by the separator but is actually materially improved by separation of fiber bundles. This should always improve formation.

Impurities are retained in the separator and washed out at regular intervals—openings for the purpose are pounded in the bottom of the basket.

Centrifugal machines for separating materials of different specific gravity have been in use for half a century.

The capacity of all single basket machines mentioned above is from 6,000 to 7,000 gallons per hour. The capacity in pounds of paper stock passed per hour depends on the consistency of the stock—

Say 145 lbs. at .25% consistency
290 lbs. at .50% consistency
430 lbs. at .75% consistency
580 lbs. at 1.00% consistency

To get proper results the stock must be run through the separator at the right consistency. It varies with the furnish and the character of foreign materials which are to be removed.

All the above described machines are driven by direct connected motors. The only variable is the consistency at which the stock is delivered.

Centraps

After developing the first American machine for handling paper stock T. A. Bryson found that to produce greater capacity and more efficient cleaning for this industry would involve radical changes, which he has incorporated in the Miami Centrap. These radical changes involve the use of three nested baskets, which greatly increase the capacity, and an entirely new arrangement for separating the dirt particles in a much more efficient manner.

The Miami Centrap is a multiple basket centrifugal composed of three baskets which nest inside each other, which in reality gives you three machines in one.

The stock is proportionately fed to each basket separately at a velocity near to that of the rim speed of the individual basket and distributed uniformly to all points on the circumference of the basket bottoms.

Each basket discharges separately into a common gutter where the clarified stock flows by gravity either to the paper machine screen or machine head box as the installation calls for.

With the 3 in 1 feature volumes from 500 to 1,800 A. D. pounds per hour can be handled at a maximum efficiency When handling furnishes from 500 to 850 A. D. pounds per hour the two inner baskets can be quickly removed and the centrap operated with the one basket. The other baskets can be inserted according to the additional volume and air dry pounds of furnish.

On cheaper grades of furnish where the main purpose is to extract sand and grit and improve formation, a con-

siderable larger capacity than mentioned above can be handled.

Each Miami Centrap basket consists of three baffles containing ½-inch holes placed close to the basket wall where the baffles are attached. As the incoming stock approaches the rim speed of the individual baskets, the forces built up by centrifugal action will immediately cause a mat of fiber ½ inch thick to be deposited under each baffle over the entire wall surface of the basket. The hollow cylinder of stock moving up over the surface of this mat is acted upon by the centrifugal forces causing immediate separation of different materials of different specific gravity.

These materials pass up through the baffle holes in their respective separate layers, and the foreign material is deposited on the mat as they pass up the wall, the heavier under the bottom baffle and so on up to the top where the lighter materials are deposited.

In other words the theory involved in the Miami Centrap aims at keeping separated the different materials of different specific gravity so that they may be more easily and efficiently extracted and deposited on the mat as they pass up and over the top of the basket.

The mat of stock holding rejections in each basket is not permitted to get over ½ inch in thickness due to absolute regulation from the holes in the baffle plates and a definite head in each basket regulated according to individual rim speed.

These facts permit an absolute minimum of waste during a wash up, which will average around 25 pounds air dry total for the three baskets when operating around 1,500 air dry pounds per hour or more.

Unless the furnish is exceptionally dirty it is not necessary to wash the centrifugal out more than once in twenty-four hours and it is possible to extend this time according to the foreign material in the furnish.

It is possible for one man to wash out all three baskets in about twenty minutes by use of the electrical hoist furnished with each machine. The inside basket is hosed out and then hoisted up, permitting the second basket to be washed. The inside basket is then dropped back into place and the first and second are then lifted out together, permitting the outside basket to be hosed out.

The baffle plate holes assist materially in speeding up the wash up since the spray water can pass through these holes to the back of the mat of rejection, causing it to drop immediately to the bottom of the basket and out to the sewer. The wash up period can be regulated to such time as some change of color or mechanical jobs has to be done to the machine, and in cases where only one centrap is attached to the paper machine the washing out can be done on the fly.

A rigid bearing type of centrifugal has definitely proven superior to a self-balancing or floating type of machine for handling a liquid load. A liquid load when revolving at high speed will automatically find its own center, eliminating the necessity of the self-balancing feature.

The rigid type of bearing eliminates critical stages in different speeds, which makes it impossible for the liquid load to go out of balance, thus stepping up the safety factor.

The V-belt drive gives maximum flexibility, making possible a wide variation of speeds by simply changing sheaves.

Elimination of clutch further increases the safety factor by making it impossible for the basket to lose speed from the result of worn or greasy clutch blocks.

The machine is devoid of vibration, all moving parts being accurately balanced dynamically on the L. H. balancing machine in the shops of the Black-Clawson Company. A material saving in power consumption is realized with the Miami Centrap as compared to any other similar type of paper stock unit. Figuring on handling a total production of 1,500 air dry pounds per hour of paper on a machine, a centrap will handle 700 gallons per horsepower per hour of this furnish or approximately 50 air dry pounds per horsepower per hour.

Conclusion

There are five reputable paper machinery builders who can tell you why they have put money into the solvent sizing of paper in a vacuum, and how they think you can apply it to your problems. Ogden Minton, the inventor of the equipment by which it may be accomplished has studied its possibilities for many years and will gladly undertake to guide any one interested in its application.

Here then is the thought to take home with you.

It appears to me that if I was obliged to operate a paper mill today, I would consider the following possibilities, viz:

1. Solvent Sizing in a Vacuum Drier. This equipment can be installed at the dry end of your present driers or in place of some of them. With this equipment I would expect to keep my investment at a minimum until I had a good return on it in profits and I would expect to obtain:

(a) a reduction in cost of sizing
(b) more product
(c) better product
(d) new characteristics and an extension of markets for products; i.e. an extension of the uses of paper.

2. Vertical driers ahead of solvent sizing equipment. I would use all the present driers and add some more in much less space lengthwise of the room, to provide the space for solvent sizing and such other improvements as appeared to be called for. I would expect to obtain:

(a) an increase in drying capacity to handle the increased product
(b) more capacity per drier and more uniform drying across the sheet with a saving in steam
(c) reduction in cost of felts by the elimination of drier felts and a longer life in wet felts.

3. Shake the breast roll only, because it has been proven to me that there is no good reason for shaking anything else. I would expect this move to:

(a) reduce wear and tear
(b) save power.

4. Installation of centraps would:

(a) make a cleaner sheet
(b) separate fiber bundles into separate fibers
(c) improve formation.

I was recently told by a former client that in the old days he could take my opinion of paper mill equipment as an unbiased one, but now—! I answered him, "Why do you think I chose the Black-Clawson Company as my organization?" I was unbiased then!

Many years ago a story was told of the wise men of the village sitting about the grocery store and undertaking to settle the affairs of the nation. Just as they were in the midst of a political discussion a neighbor rushed in and said: "Did you hear what happened? Sid Smith came outen his house and he seen an owl and he got his gun and he shot at the owl and the wad hit his haystack and it got afire and Sid broke his leg trying to put the fire out and they carried him over to Widow Jones' house and she fainted and they couldn't get a doctor"—then he paused to get his breath and an old fellow slid a pint of tobacco juice to the side of his face and said: "Did Sid hit the owl?"

LOCKWOOD'S DIRECTORY

OF THE PAPER AND ALLIED TRADES

1932 EDITION

CORRECTED UP-TO-DATE

CONTENTS

Entire contents classified under separate headings for the United States and Canada, alphabetically and geographically arranged by states.

City Addresses of Mills and Mill Supply Houses
Classified List of Paper Mill Products
Classified List of Pulp Mill Products
Coated Paper Manufacturers
Envelope Manufacturers
Glazed and Coated Paper Manufacturers
Idle Mills
Mill Officials
Pad Manufacturers
Paper Merchants
Paper Stock and Rag Dealers
Paper Bag Manufacturers
Paper Box Manufacturers
Paper, Wood Pulp and Chemical Fiber Mills of the United States, Canada, Cuba, Mexico and South America
Paper Specialties Manufacturers
Papeterie Manufacturers
Prepared Roofing Manufacturers
Rags and Paper Stock Consumed by the Paper Mills
Stationers in United States, Porto Rico, Canada, Cuba, Hawaiian Islands and the Philippine Islands
Statistical Table of Mills
Tablet Manufacturers
Tag Manufacturers
Toilet Paper Manufacturers
Trade Associations
Twine Manufacturers
Vegetable Parchment Manufacturers
Wall Paper Printers
Water Marks and Brands
Waxed Paper Manufacturers

1,000 PAGES
of USEFUL INFORMATION

Traveler's Special Pocket Edition

bound in a flexible cover for use of traveling men, comprising the Paper and Pulp Mills, Coating Mills and the Mill Officials. Price $7.50, including delivery charges. ($7.00 cash with order.)

Published by
LOCKWOOD TRADE JOURNAL CO.
10 East 39th Street
New York, N. Y., U.S.A.

ACCURACY!

Elmendorf Paper Tearing Testers are so carefully calibrated that any two instruments can be picked from a hundred and like readings obtained from a sample of paper.

That is why, an Elmendorf in Boston will give exactly the same readings as one in San Francisco.

Just as constant as gravity—so constant is the accuracy of our Elmendorf Paper Tearing Tester.

When definite "Elmendorf" information is presented, it is indisputable.

Send for descriptive bulletin

Thwing Instrument Company
3341 Lancaster Avenue
Philadelphia, U. S. A.

ELMENDORF PAPER TEARING TESTER

180

Air Conditions and Efficiency

Human beings can do four times as much work in a temperature of 100 degrees when the relative humidity is 30 per cent than when it is 100 per cent, and can perform at maximum efficiency only between the temperature limits of 40 and 75 degrees F., according to facts quoted in a report just issued by the Policyholders Service Bureau of the Metropolitan Life Insurance Company, entitled Air Conditions and the Comfort of Workers.

Humidity and air motion as well as temperature must be considered if conditions most favorable to health and efficiency are to be maintained. "The control of air temperature," the report states, "without reference to its moisture content or rate of movement, was at first believed to be the best method of providing comfortable conditions. This belief still persists to some extent, although ample evidence is available indicating the influence of both the dry and wet bulb temperature, as well as the rate of air movement."

The report describes simple methods of measuring humidity and air motion, and explains how air is "conditioned" for comfort and efficiency. According to the report, extensive researches have been made "on human subjects exposed to unusual temperatures and humidities under accurately controlled environmental conditions." These have shown how and to what extent man loses his physiological efficiency beyond certain temperature limits. The experiments and the limits established are then discussed in some detail. Methods of removing excessive heat and moisture, and of cleansing the air are also described.

This is the season, according to health authorities when proper ventilation is especially important because of the increased danger of colds and similar ailments. The Metropolitan report offers scientific knowledge of air and its effects on human beings as a timely help in preventing some of the sickness and decreased efficiency that become prevalent at this time of the year.

Copies of Air Conditions and the Comfort of Workers may be had by addressing a request to the Policyholders Service Bureau of the Metropolitan Life Insurance Company, One Madison avenue, New York City.

Buys Morrison Stitcher Corp.

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, March 21, 1932.—The Harris-Seybold-Potter Company, machinery manufacturers, widely known in the paper trade, announced last Wednesday the purchase of the manufacturing business of the Morrison Stitcher Corporation of Niagara Falls, N. Y., together with its two sales companies which have handled distribution.

It is stated here that operation and sales headquarters will be moved to this city and consolidated with other divisions of the parent company. Negotiations for the Morrison Stitcher Corporation purchase were conducted with Frank E. Lawrence, president, and George C. Tuttle, secretary and counsel, of the Niagara Falls Company.

H. I. Lewis, assistant manager of the Seybold Machine Company division, is at present in Niagara Falls to complete arrangements for the transfer of the business.

The deal was effected through the purchase of capital stock of the Morrison Stitcher Corporation and includes all assets of the Morrison Company except the land and buildings, which were retained by the former stockholders.

Thomas R. Jones, vice president and general manager of the Seybold company, announces that the general offices of the Harris-Seybold-Potter Company are located in the Union Trust building.

Hand Made Paper Mill in New York

A small paper mill has recently been set up on the seventh floor of the building occupied by the Japan Paper Company at 109 East 31st street. The equipment is from the old Enysford Mill, Kent, England, a mill which has been in continuous operation since 1699, and has been installed for the purpose of giving practical demonstrations to the public of the making of paper by hand. A similar equipment mounted on a motor truck was an exhibit in the Lord Mayor's Show in London in 1929. The occasion was the first time in history that paper was made in the streets of London.

Such important and interesting steps in the process of papermaking as the beating of the rag stock and the formation of a hand made sheet by the vatman are shown in detail, and visitors are welcome. A special visit to this country is now being made by Miss Winifred Bird, manager of the Eynsford Mill, for the purpose of explaining to the visitors to the Japan Paper Compnay the fine points of making paper by hand.

Miss Bird's mission is as an exponent of the practical use of hand made papers, not only from the standpoint of their valuable contribution to the beautifying and preservation of "the art preservative," but the everyday use of such papers to afford a durable and lasting medium for the recording of important documents and historical data which must be preserved for posterity.

Pomona Mill Makes Good Report

POMONA, Cal., March 19, 1932.—At the annual meeting of the California Fruit Wrapping Paper Mills of this place on March 7, all directors and officers of the company were re-elected. F. O. Fernstrom was re-elected president, H. G. Miller, vice president, Erik Fernstrom, general manager and secretary-treasurer. In addition to the officers, Walter Johnson and T. E. Guerin were re-elected directors.

The company which manufactures tissue paper converted into fruit wraps, both plain and printed, and oiled and unoiled, reports the last year to be the most satisfactory year of its career since 1926 when the company was formed. The company, which operates a two-machine paper mill, reports that about 75 per cent of its production is contracted for, for a period of five years.

Henry F. Horne Passes Away

LAWRENCE, Mass., March 21, 1932.—Henry Franklin Horne, aged 32, president of John H. Horne & Sons Company, widely known manufacturers of paper mill machinery, died Saturday, March 12 at the home of his father-in-law, William J. Caldwell, 32 Hawthorne street, Malden, Mass., of pneumonia.

His widow and her mother, who have been in Miami, where the former has been recovering from an operation, returned to Malden by airplane.

Besides his widow, Mr. Horne leaves a mother and two sisters.

Range Paper Co. Files Complaint

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 21, 1932.—A complaint has been filed with the Interstate Commerce Commission by the Range Paper Company, of Virginia, Minn., against the Duluth, Missabe & Northern Railway. The paper company complains against rates on paper articles from points in New York, Michigan, Ohio and Wisconsin to Virginia, Minn.

The B.Q.-DIC. QUALITY PULPS

"HAFSLUND BEAR"
Bleached Sulphite

"FORSHAGA"
Bleached Sulphite

"HURUM SPECIAL"
Extra Strong Kraft

"BAMBLE"
Extra Strong Kraft

Fresh Monthly Shipments—No Closed Winter Season

The Borregaard Company
Incorporated
200 FIFTH AVENUE NEW YORK, N. Y.

WHAT IS A TRADE MARK?

When you see our TRADE MARK

on a barrel of COLOR
it means QUALITY

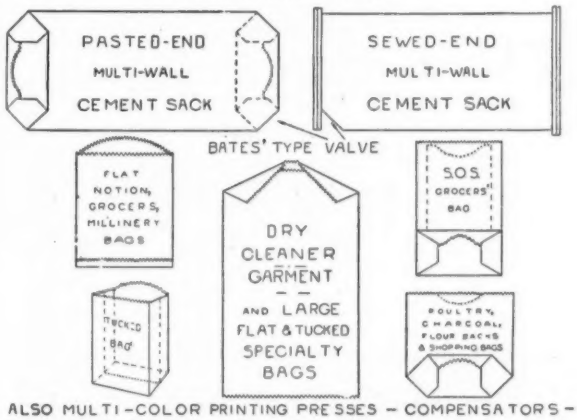
We take pride in seeing that goods are properly manufactured and tested before shipping. No Complaints on Colors. If you are not using them, give us a trial.
Prompt deliveries made from stocks in New York, Boston, Philadelphia and Chicago.

HELLER & MERZ CORPORATION
286 Spring St., New York, N. Y.

Boston 35 Hartford St.
Chicago 146 W. Kinzie St.
Springfield, Mass. 40 Albert St.
Philadelphia South St. & Delaware Ave.
Factory—NEWARK, N. J.

POTDEVIN MACHINERY

OVER 60 MODELS OF PAPER BAG
FOR PLAIN OR PRINTED


PASTED-END MULTI-WALL CEMENT SACK
SEWED-END MULTI-WALL CEMENT SACK
BATES' TYPE VALVE
FLAT NOTION, GROCERS, MILLINERY BAGS
DRY CLEANER GARMENT AND LARGE FLAT & TUCKED SPECIALTY BAGS
S.O.S. GROCERS' BAG
TUCKED BAG
POULTRY, CHARCOAL, FLOUR SACKS & SHOPPING BAGS

ALSO MULTI-COLOR PRINTING PRESSES – COMPENSATORS – BOTTOMERS – GLUING – PASTING – PAPER WAXING MACHINERY, ETC.

POTDEVIN MACHINE CO.
38TH STREET BROOKLYN, N.Y. U.S.A.

THE DRAPER FELTS

All kinds and styles of Felts for all kinds and styles of Papers.

Write us about your Felt problems and let us help you reduce your Felt Costs—we will call anywhere at any time.

DRAPER BROS. COMPANY
CANTON, MASS.
Woolen manufacturers since 1856

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

SUMMARY

WEEK ENDING MARCH 19, 1932

Cigarette paper	6 cs.
Wall paper	14 bls., 6 cs.
Paper hangings	3 bls.
News print	997 rolls
Printing paper	75 rolls
Wrapping paper	12 cs.
Colored paper	26 cs.
Filter paper	206 bls., 54 cs.
Drawing paper	7 cs.
Tissue paper	7 cs.
Photo paper	3 cs.
Surface coated paper	1 cs.
Metal coated paper	29 cs.
Baryta coated paper	10 cs.
Parchment paper	9 cs.
Transfer paper	30 cs.
Decalcomania paper	5 cs.
Design paper	1 cs.
Writing paper	1 cs.
Letter paper	3 cs.
Envelopes	2 cs.
Bristol boards	2 cs.
Gummed paper	1 cs.
Raw card	37 cs.
Card board	211 cs.
Paper board	63 cs.
Miscellaenous paper	17 rolls, 15 bls., 2 cs.

CIGARETTE PAPER

Max Speigel & Sons, A. Ballin, Hamburg, 6 cs.

WALL PAPER

R. F. Downing & Co., Pr. McKinley, Kobe, 14 bls.

R. F. Downing & Co., Olympic, Southampton, 3 cs.

Globe Shipping Co., A. Ballin, Hamburg, 3 cs., 1 bl.

PAPER HANGINGS

W. H. S. Lloyd & Co., American Merchant, London, 3 bls.

NEWS PRINT

Jay Madden Corp., Dresden, Bremen, 577 rolls.

Walker Goulard Plehn Co., Dresden, Bremen, 170 rolls.

——, Stavangerfjord, Oslo, 250 rolls.

PRINTING PAPER

Armour & Co., A. Ballin, Hamburg, 75 rolls.

WRAPPING PAPER

Yardley & Co., American Merchant, London, 12 cs.

COLORED PAPER

E. Dietzgen & Co., A. Ballin, Hamburg, 26 cs.

FILTER PAPER

H. Reeve Angel & Co. Inc., American Merchant, London, 17 cs.

H. Reeve Angel & Co. Inc., Olympic, Southampton, 29 cs., 5 bls.

J. Manheimer, Olympic, Southampton, 164 bls., 8 cs.

A. Giese & Son, Olympic, Southampton, 37 bls.

DRAWING PAPER

Devoe & Reynolds Co., American Merchant, London, 1 cs.

E. Dietzgen & Co., American Merchant, London, 4 cs.

Winsor Newton, Inc., American Merchant, London, 2 cs.

TISSSUE PAPER

W. J. Byrnes, Olympic, Southampton, 5 cs.

B. F. Drakenfeld & Co., Antonia, Liverpool, 2 cs.

PHOTO PAPER

American Express Co., Europa, Bremen, 3 cs.

SURFACE COATED PAPER

Phoenix Shipping Co., A. Ballin, Hamburg, 1 cs.

METAL COATED PAPER

Globe Shipping Co., Dresden, Bremen, 13 cs.

Taub Hummell & Schnall, A. Ballin, Hamburg, 3 cs.

K. Pauli Co., A. Ballin, Hamburg, 13 cs.

BARYTA COATED PAPER

Globe Shipping Co., Dresden, Bremen, 10 cs.

PARCHMENT PAPER

Dingelstedt & Co., Dresden, Bremen, 9 cs.

TRANSFER PAPER

F. L. Kramer & Co., Dresden, Bremen, 30 cs.

DECALCOMANIA PAPER

C. W. Sellers, A. Ballin, Hamburg, 5 cs.

DESIGN PAPER

American Express Co., Antonia, Liverpool, 1 cs.

WRITING PAPER

Meadows Wye & Co., Olympic, Southampton, 1 cs.

LETTER PAPER

J. Garfinckel & Co., A. Ballin, Hamburg, 3 cs.

ENVELOPES

Simfred Co. Inc., A. Ballin, Hamburg, 2 cs.

BRISTOL BOARDS

——, American Merchant, London, 2 cs.

GUMMED PAPER

G. W. Sheldon & Co., A Ballin, Hamburg, 1 cs.

RAW CARD

F. C. Strype, Dresden, Bremen, 37 cs.

CARD BOARD

E. Fucini & Co., Pr. Monroe, Genoa, 11 cs.

American Express Co., A. Ballin, Hamburg, 200 cs.

PAPER BOARD

Saentis Inc., Saco, Rotterdam, 63 cs.

MISCELLANEOUS PAPER

Kramer & Hauser, Europa, Bremen, 1 cs.

Keller Dorian Paper Co., Olympic, Southampton, 1 cs.

——, A. Ballin, Hamburg, 17 rolls, 15 bls.

RAGS, BAGGINGS, ETC.

Castle & Overton Inc., Saco Rotterdam, 65 bls. rags.

J. Cohen Son & Co., Antonia, Liverpool, 34 bls. rags.

GLUE STOCK

H. Bierschenk & Co. Inc., Saco, Rotterdam, 200 bags.

E. Weil Inc., Vincent, Dunkirk, 139 bags.

HIDE GLUE

——, A. Ballin, Hamburg, 416 bags.

OLD ROPE

Brown Bros. Harriman & Co., Cristobal Colon, Coruna, 47 bls.

——, Augvald, Barcelona, 39 bls.

CHINA CLAY

Wilson Paterson & Gifford, New York City, Bristol, 150 casks.

WOOD PULP

J. Anderson & Co., Fred. VIII, Oslo, 300 bls. sulphite, 50 tons.

The Borregaard Co. Inc., Fred. VIII, Oslo, 180 bls. sulphite, 30 tons.

Atterbury Bros. Inc., Fred VIII, Oslo, 120 bls. sulphite, 20 tons; 300 bls. chemical pulp, 50 tons.

E. M. Sergeant & Co., Stavangerfjord, Oslo, 150 bls. chemical pulp.

——, Stavengerfjord, Oslo, 125 bls. chemical pulp.

Perkins Goodwin & Co., Stavengerfjord, Drammen, 575 bls. sulphite.

Castle & Overton, Inc., A. Ballin, Hamburg, 1470 bls. wood pulp, 294 tons.

WOOD FLOUR

State Chemical Co., Saco, Rotterdam, 400 bags, 20,000 kilos.

The Burnet Co., Saco, Rotterdam, 201 bls., 10,025 kilos.

——, Stavangerfjord, Frederickstad, 407 bags.

——, Stavangerfjord, Oslo, 180 bags.

BOSTON IMPORTS

WEEK ENDING MARCH 19, 1932

Atkinson Haserick & Co., Pr. Monroe, Genoa, 4 cs. paper.

G. F. Malcolm & Co., Antonia, Liverpool, 61 cs. tissue paper.

Gottesman & Co. Inc., Topeka, Sweden, 1000 bls. wood pulp.

PORTLAND IMPORTS

WEEK ENDING MARCH 19, 1932

Gottesman & Co. Inc., Carlsholm, Sweden, 2700 bls. wood pulp.

Gottesman & Co. Inc., Carplaka, Sweden, 2000 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING MARCH 19, 1932

Gottesman & Co. Inc., Regnhildsholm, Sweden, 1650 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING MARCH 19, 1932

Gottesman & Co. Inc., Carplaka, Sweden, 1000 bls. wood pulp.

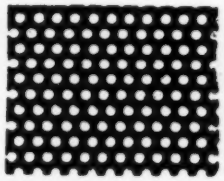
New Chart Series

The American Paper and Pulp Association has just distributed to its membership a series of charts entitled "A Graphic Presentation of the Pulp and Paper Industry, 1920-1931." These charts, prepared by John A. C. Kavanagh, of the association staff, cover the trend of production of the major grades of pulp and paper over a period of years, and include data on per capita consumption of the various grades of paper over a period of years.

One of the most interesting charts shows the relative importance of the various distribution channels through which paper mill sales flow. Supplementing the domestic pulp data are charts showing the trend of production and exports to the United States of bleached sulphite and kraft pulp by the leading foreign producers.

Perforated Metal Screens

For Pulp and Paper Mills



".065" Round

STEEL, COPPER, BRASS, BRONZE, MONEL METAL and other Alloys punched for Centrifugal and Rotary Screens, Pulp Washers, Drainer Bottoms, Filter Plates, etc.

CHARLES MUNDT & SONS

63-65 FAIRMONT AVE. JERSEY CITY, N. J.

PERMANENT COLORS

Browns Greens Reds Yellows

BROWNS
Oxides of Iron
Turkey Umbers

GREENS
Chromic Oxides
Guignet's Green

REDS
All types and shades of Oxides of Iron

YELLOWS
Ochres
Iron Hydroxides

Asbestines and Talcs for Fillers

C. K. WILLIAMS & CO.

EASTON, PA.

PAPER MAKERS' DRYER FELTS TRIUNE and MULTIPLE PLY

Serve every Felt Purpose in an efficient and satisfactory way.

60" to 288"

ENGLISH or BAKER WOVEN

Made in three, four, five and six ply—60" to 214" wide.

FITCHBURG DUCK MILLS

FITCHBURG, MASS.

For 88 Years Makers of Fine Faced Felts For Papermakers

WOOD PULP AGENTS

PRICE & PIERCE, Ltd.,

60 EAST 42nd ST.

NEW YORK

CASEIN

CMCo BRAND

ANY GRADE ANY QUANTITY

THE CASEIN MFG. COMPANY OF AMERICA, Inc.

205 E. 42nd St. New York, N. Y.

Oldest and Largest Producers of Casein in America

THE CLARK-AIKEN CO.

Successors to
H. C. Clark & Son Machine Co.

PAPER MILL MACHINERY

LEE, MASS.

Revolving Paper Cutters—Rag Cutters—Cylinder Paper Machines—Washing and Beating Engines—Chilled Iron and Paper Calenders—Fan and Stuff Pumps—Engine Roll Bars and Bed Plates—
Cylinder Molds—Marshall Drives—Slitters and Rewinders—Reels—Dryers with Improved Packing Boxes—Wet Machines—Gun Metal and Rubber Rolls—Rolls Reground.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, March 23, 1932

During the past week, trading in the local paper market was decidely quiet. Inquiries for the various standard grades of paper, however, are fairly numerous, and the future outlook is considered, in some quarters, moderately bright. Prices are steadier than for some time past and sales forces of the leading paper organizations continue optimistic.

The news print market is practically unchanged. North American production during February amounted to 267,655 tons, according to information gathered by the News Print Service Bureau. The output for the first two months of the year was 6 per cent lower than in the corresponding period of 1931.

Production of the various grades of paper board is being maintained in sufficient volume to take care of current requirements. The price situation continues unsatisfactory. The fine paper market is marking time at present. Tissues are moving in fair volume. The coarse paper market is steady and quotations on kraft wrapping paper are well held.

Mechanical Pulp

Steadiness prevails in the ground wood market. While demand for both domestic and imported mechanical pulp is somewhat restricted, offerings are not excessive, as production has been practically keyed to consumption for some time past, in North America and abroad. Prices are holding to schedule, in most instances.

Chemical Pulp

Some improvement was noticed in the tone of the chemical pulp market. Due to the pulp mill workers strike in Sweden, quotations on several of the grades are firmer. Imported bleached sulphite is offered at from $2.10 to $2.90; while imported Mitcherlich unbleached sulphite is now quoted at from $1.60 to $1.75, on dock, Atlantic ports.

Old Rope and Bagging

The old rope market is exhibiting a stronger undertone than of late. Both domestic and imported old manila rope are steadier. Small mixed rope, however, is comparatively slow. Little change was noticed in the bagging market. Although gunny bagging is in fairly persistent request, scrap bagging continues dull.

Rags

No radical changes were reported in the domestic rag market. Paper mill demand for cotton rags is somewhat restricted at present. Roofing grades, however, are in seasonal request, at firm quotations. The special feature of the imported rag market during the past week, was the improved inquiry for dark cottons.

Waste Paper

The lower grades of paper stock continue firm, due mainly to the continuation of the metropolitan packers strike. Local dealers are asking from $4 to $5 per ton for No. 1 mixed paper, f.o.b. New York; and from $6 to $7 per ton for strictly folded news. The higher grades of waste paper continue fairly steady, with prices unchanged.

Twine

Demand for the various grades of twine was fairly active during the past week. Supplies are moving into consumption in good volume considering the prevailing business situation. While competition for desirable orders is as keen as ever, prices are generally holding to formerly quoted levels.

Deister Concentrator Co. Statement

In order that no misunderstandings or lack of knowledge of facts may exist in any sections of the paper and pulp industry the Deister Concentrator Company has issued the following statement:

"The Deister Concentrator Company, incorporated 1906, is the original milling equipment company operating in Fort Wayne, Indiana, under that or similar style. Throughout twenty-five years of uninterrupted manufacturing and service specialized to separating equipment, the Deister Concentrator Company has produced and marketed under exclusive rights, patents or patents pending: Deister Concentrating Tables; Deister-Overstrom Ore Concentrating and Coal Washing Tables; Deister and Overstrom self-oiling table Head Motions; Leahy NO-Blind Vibrating Screens; Concenco Foundry Screens; Concanco Flat Pickers. It also has produced and continues to manufacture and sell classifiers and other equipment under the Concenco Products trademark.

"The Deister Concentrator Company has at no time relinquished or sold its patents or rights to the above equipment; and since its inception under the original Deister patents has produced or acquired all other patents covering extensive improvements to its equipment and for new equipment which the Company owns or controls exclusively."

Waste Material Dealers Banquet

The Nineteenth Annual Banquet of the National Association of Waste Material Dealers, Inc., held at the Hotel Astor, New York, on Wednesday, March 16, was well attended, and proved one of the most successful events in the history of the organization.

Carlton B. Overton, the retiring president of the association, was an efficient toastmaster, and introduced the distinguished guests and speakers in an appropriate manner.

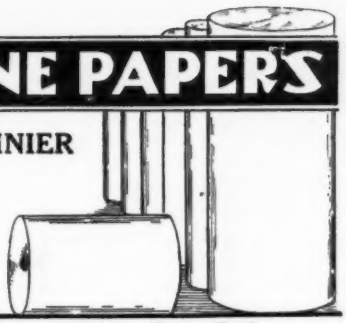
Timely and illuminating addresses were presented by Charles M. Schwab and General Smedley D. Butler, both of whom were enthusiastically received.

The Banquet Committee was composed of H. H. Cummings, chairman; Robert Blank, Oscar Spitzer and E. J. Keller.

FINE FELTS for FINE PAPERS

FOR CYLINDER AND FOURDRINIER MACHINES

Let us solve your FELT Problems.



THE WATERBURY FELT CO.
SKANEATELES FALLS, N.Y.

West Virginia Pulp and Paper Company

Manufacturers of

SUPERCALENDERED and MACHINE FINISHED BOOK and LITHOGRAPHIC PAPERS

Offset, Envelope, Bond, Writing, Cover and Music Paper, Index Bristol, Post Card and Label Papers

High Grade Coated Book

also

KRAFT WRAPPING AND KRAFT ENVELOPE

Bleached Spruce Sulphite Pulp, Soda and Kraft Pulp

230 Park Ave. New York — 35 East Wacker Drive Chicago
503 Market St., San Francisco, Cal.
Sixth and Chestnut Sts., Philadelphia, Pa.

1864 1932

"EXCELSIOR" FELTS

for every grade of

PULP AND PAPER

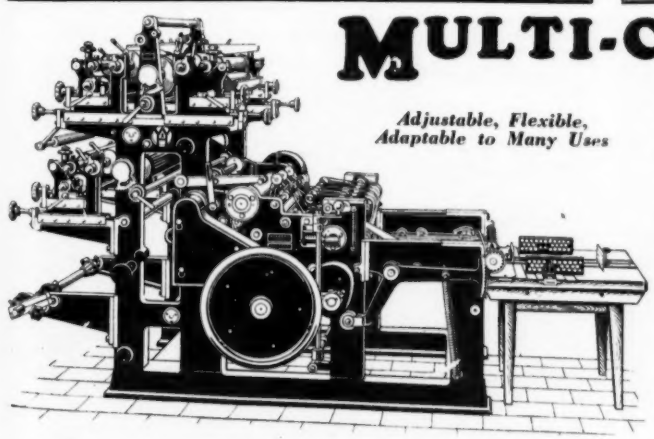
We continue to maintain at the top the quality of Excelsior Felts, as we have done since we, as pioneers, made the first endless paper machine felts manufactured in America

Seamless felts for fast running.
Satin Style felts for finish.
Special felts to meet every condition.
Send us your felt problems.

KNOX WOOLEN COMPANY
CAMDEN, MAINE

SOLD BY
BULKLEY, DUNTON & COMPANY
75-77 Duane St., N. Y., and direct

MULTI-COLOR Aniline Press



Adjustable, Flexible, Adaptable to Many Uses

3 or 4 colors. Slits and rewinds the web, or cuts it up into sheets of various sizes. Cuts a straight (not serrated) edge. Can be used as a separate unit or directly connected with reel-fed bag or other machines. Also adjustable to print both sides at once.

New Small Aniline Printer $475.00

f.o.b. New York, One color press; 18½-inch web; printing pitch 5½ to 13 inches. Can be attached to any bag or paper converting machine, without slowing down the machine. Proportionately low prices on 2- and 3-color presses of this type.
These machines offer a great opportunity for paper goods manufacturers who are not now equipped to do printing.

Manufactured by Windmoeller & Hoelscher

H. H. HEINRICH, INC.
200 Varick Street, New York

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, March 23, 1932.

BLANC FIXE.—Trading in the blanc fixe market is moderately active. Prices are holding to previously quoted levels. The pulp is quoted at from $42.50 to $45 per ton; while the powder is selling at from 3¼ cents to 3⅜ cents per pound, in barrels, at works.

BLEACHING POWDER.—The position of the bleaching powder market is practically unchanged. Contract shipments are going forward in fairly heavy volume. Prices remain unaltered. Bleaching powder is quoted at from $1.75 to $2 per 100 pounds, in drums, at works.

CASEIN.—Dullness reigns in the casein market. Domestic standard ground is quoted at 6½ cents and finely ground at 7½ cents per pound. Argentine standard ground is selling at 8¼ cents and finely ground at 9½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Demand for caustic soda is rather light at present. Prices are holding to schedule. Solid caustic soda is quoted at from $2.50 to $2.55; while the flake and the ground are selling at from $2.90 to $2.95 per 100 pounds, in large drums, at works.

CHINA CLAY.—Conditions in the china clay market are fairly satisfactory. The contract movement is mostly seasonal. Imported china clay is quoted at from $11 to $13 per ton; while domestic paper making clay is selling at from $7 to $11 per ton, at mine.

CHLORINE.—Paper mill demand for chlorine is fairly persistent. Shipments against contract are moving at a steady pace. Prices are holding to schedule. Chlorine is quoted at $1.75 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is easy and prices have declined. The grades of gum rosin used in the paper mills are quoted at from $3.70 to $3.95 per 280 pounds, in barrels, at works. Wood rosin is selling at $3 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Steadiness prevails in the salt cake market. Prices generally remain unchanged. Salt cake is quoted at from $15 to $16; chrome salt cake at from $12 to $13 per ton in bulk at works. Imported salt cake is selling at from $14 to $15 per ton, ship side.

SODA ASH.—Some improvement has developed in the soda ash market. Demand is fairly active and the contract movement is normal. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1; in bags, $1.25; and in barrels, $1.38.

STARCH.—Most of the business transacted in the starch market is along routine lines. Supplies are going forward into consumption with regularity. Special paper making starch is quoted at $2.54, in bags; and at $2.81 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—While demand for sulphate of alumina is comparatively light, prices remain unchanged. Commercial grades are quoted at from $1.25 to $1.40; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market is fairly steady. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Paper mill demand for talc is restricted. The contract movement is mainly seasonal. Prices remain unchanged. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at mine. Imported talc is still offered at from $18 to $22 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	38.00
Bonds	5.00	@	53.25
Index	6.00	@	12.00
Writings—			
Extra Superfine	6.50	@	15.00
Superfine	6.25	@	14.75
Tub sized	4.50	@	7.00
Engine sized	3.00	@	5.00
Book, Cased—			
S. & S. C.	5.25	@	—
M. F.	3.75	@	5.00
Coated and Enamel	6.25	@	9.75
Litnograph	6.75	@	11.25
Tissues—Per Ream—			
White No. 1	.65	@	.70
Anti-Tarnish M. G. only	.65	@	.70
Colored	.70	@	.90
White No. 2	.50	@	.60
Kraft	.65	@	.70
Manila	.55	@	.60
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middies	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.09¼	@	—
No. 2	.11¼	@	—
Bleached, basis 20 lbs.	.11¼	@	—

(Delivered New York)

News, per ton—			
Roll, contract	53.00	@	—
Rolls, spot	53.00	@	—
Sheets	58.00	@	—
Side Runs	38.00	@	42.00
Kraft—			
No. 1 Domestic	4.75	@	6.00
No. 2 Domestic	3.25	@	4.00
Southern	3.25	@	4.00
Imported	3.50	@	4.30
Boards—per ton—			
News	22.00	@	25.00
Straw	34.50	@	45.00
Chip	22.00	@	25.00
Binders' Boards	62.00	@	70.00
Standard 85 Test Liner	30.00	@	32.50
Sgl. Mla. Ll. Chip	32.50	@	37.50

(F. o. b. Mill)

Wood Pulp Boards	70.00	@	80.00

Mechanical Pulp

(On Dock)

No. 1 Imported—			
Moist	22.00	@	24.00
Dry	22.00	@	24.00

(F. o. b. Mill)

No. 1 Domestic	20.00	@	28.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	2.10	@	2.90
Easy Bleaching	1.60	@	1.75
No. 1 strong unbleached	1.50	@	1.75
Mitscherlich unbleached	1.60	@	1.75
No. 2 strong unbleached	1.40	@	1.50
No. 1 Kraft	1.50	@	1.75
No. 2 Kraft	1.40	@	1.50
Sulphate—			
Bleached	1.85	@	2.15

(F. o. b. Pulp Mill)

Sulphite (Domestic)—			
Bleached	2.00	@	3.75
Easy Bleaching	1.75	@	1.90
News	1.50	@	1.65
Mitscherlich	2.40	@	2.55
Kraft (Domestic)	1.60	@	2.75

(Delivered Paper Mills)

Soda Bleached	2.50	@	—

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	4.50	@	5.00
New White, No. 2	3.50	@	4.00
Silesias No. 1	3.50	@	4.00
New Unbleached	6.00	@	6.50
New Blue Prints	3.25	@	3.50
New Soft Blacks	2.50	@	3.00
Blue Overall	3.50	@	4.00
Fancy	2.50	@	3.00
Washables	1.75	@	2.00
Mixed Khaki Cuttings	3.00	@	3.25
Pink Corset Cuttings	Nominal		
O. D. Khaki Cuttings	3.50	@	3.75
Men's Corduroy	1.50	@	2.00
New Mixed Blacks	2.00	@	2.25

Old Rags

White, No. 1—			
Repacked	5.25	@	5.75
Miscellaneous	4.25	@	4.75
White, No. 2—			
Repacked	3.00	@	3.50
Miscellaneous	2.30	@	2.50
St. Soiled, White	1.50	@	1.75
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.65	@	1.85
Black Stockings	3.25	@	3.75
Roofing Rags—			
No. 1	.53	@	.58
No. 2	.48	@	.53
No. 3	.43	@	.48
No. 4	.38	@	.43
No. 5A	.33	@	.38

Foreign Rags

New Rags

New Dark Cuttings	1.40	@	1.50
New Mixed Cuttings	1.60	@	1.75
New Light Silesias	3.40	@	3.50
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	5.50	@	6.00
New White Cuttings	4.75	@	5.00
New Light Oxfords	4.00	@	4.25
New Light Prints	2.00	@	2.25

Old Rags

No. 1 White Linens	5.25	@	5.50
No. 2 White Linens	4.50	@	4.75
No. 3 White Linens	3.25	@	3.75
No. 4 White Linens	1.75	@	2.25
No. 1 White Cotton	4.00	@	4.25
No. 2 White Cotton	3.00	@	3.25
No. 3 White Cotton	2.25	@	2.50
No. 4 White Cotton	1.40	@	1.50
Extra Light Prints	1.90	@	2.10
Ord. Light Prints	1.60	@	1.75
Med. Light Prints	1.40	@	1.55
Dutch Blue Cottons	1.35	@	1.40
French Blue Linens	2.00	@	2.25
German Blue Linens	2.00	@	2.10
German Blue Cottons	1.20	@	1.25
Checks and Blues	1.25	@	1.30
Lindsay Garments	.75	@	.80
Dark Cottons	.70	@	.75
Old Shopperies	.55	@	.60
New Shopperies	.60	@	.65
French Blues	1.25	@	1.30

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.10	@	1.20
Domestic	1.15	@	1.25
Wool Tares, light	1.00	@	1.05
Wool Tares, heavy	1.00	@	1.10
Bright Bagging	1.00	@	1.05
Small Mixed Rope	.90	@	1.00
Manila Rope—			
Foreign	1.50	@	1.60
Domestic	1.50	@	1.75
New Burlap Cut	1.70	@	1.80
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
Hard, white, No. 1	2.55	@	2.75
Hard, white, No. 2	1.90	@	2.00
White envelope cuttings	2.05	@	2.15
Soft, white, No. 1	1.70	@	1.80
Flat Stock—			
Stitchless	.70	@	.80
Overissue Mag.	.70	@	.80
Solid Flat Book	.60	@	.70
Crumped No. 1	.45	@	.50
Solid Book Ledger	1.75	@	1.85
Ledger Stock	.60	@	.70
New B. B. Chips	.20	@	.30
Manilas—			
New Env. Cut	1.75	@	1.85
New Cuttings	1.40	@	1.50
Extra No. 1 old	1.05	@	1.15
Print	.45	@	.50
Bogus Wrapper	.45	@	.50
Container	.25	@	.30
Old Kraft Machine—			
Compressed bales	1.00	@	1.10
News—			
No. 1 White News	1.60	@	1.65
Strictly Overissue	.35	@	.45
Strictly Folded	.30	@	.35
No. 1 Mixed Paper	.20	@	.25
Common Paper			Nominal

Arthur D. Little, Inc.

Chemists and Engineers to the Pulp and Paper Industry for over Forty Years

Laboratories and Experimental Mill

30 CHARLES RIVER ROAD, CAMBRIDGE, MASS.

Hardy S. Ferguson & Co.

Consulting Engineers

200 Fifth Avenue, New York City

Hardy S. Ferguson.....Member A.S.C.E., A.S.M.E., E.I.C.
Moses H. Teaze .....Member A.S.M.E., E.I.C., A.S.C.E.
J. Wallace Tower .....Member A.S.C.E., A.S.M.E.

Consultation, reports, valuations, and complete designs and engineering supervision for the construction and equipment of

Pulp and Paper Mills and other Industrial Plants.
Steam and Hydro-electric Power Plants
Dams and other Hydraulic Structures.

20 plants to serve You

PAPER MAKERS CHEMICAL CORP.
Kalamazoo, Michigan

V. D. SIMONS

INDUSTRIAL ENGINEER

Pulp and Paper Mills, Hydro-Electric and Steam Power Plants, Electrification Paper Mill Properties.

435 No. Michigan Ave.
CHICAGO, ILL.

GEORGE F. HARDY

Consulting Engineer

305-309 Broadway, New York City, N. Y.

Member—Am. Soc. C.E.—Am. Soc. M.E.—Eng. Inst. Can.

Consultation	Paper and Pulp Mills
Reports	Hydro-Electric and
Valuations	Steam Power Plants
Estimates	Plans and Specifications

Dietz Towel Interfolding Machines

also

TOILET PAPER MACHINES
For making Toilet and Paper Towel Rolls
(With or without perforations)

AUTOMATIC TUBE MACHINES
For Making Wire-Stitched Toilet Tubes

Sanitary Crepe Towel Machines, Roll Tighteners, Slitting and Rewinding Machines, Drop Roll Slitting Machines, Photo Mount Beveling Machines, Rotary Card Cutting Machines, etc.
Correspondence solicited

DIETZ MACHINE WORKS

126-128 W. Fontaine Street
Cor. Waterloo St. (between Front & Second Sts.)
and below Diamond St.
Phila., Penna., U. S. A

The uses of Liquid Chlorine

are rapidly expanding, so we are improving our facilities, and are prepared to ship promptly in Tank Cars, Multi-Unit Tank Cars (1-ton containers), or Cylinders (150 lbs. or 100 lbs.) from either Philadelphia, Pa., Wyandotte, Mich., Menominee, Mich., or Tacoma, Wash.

Inquiries and general correspondence should be addressed to our Philadelphia Office

Pennsylvania Salt Mfg. Company

Incorporated 1850.

Widener Building, Philadelphia, Pa.

Representatives:
New York Pittsburgh Chicago St. Louis
Works:
Natrona, Pa. Wyandotte, Mich.
Philadelphia, Pa. Menominee, Mich.
Tacoma, Wash.

Twines
(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finisined Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.15½	@	.16½
No. 2	.11¾	@	.12¾
Tube Rope—			
4-ply and larger	.09¾	@	.11¾
Fine Tube Rope—			
4-ply	.11	@	—
3-ply	.12	@	—
2-ply	.13	@	—
Paper Makers Twine			
Balls	.08¾	@	.10¼
Box Twine, 2-3 ply	.07	@	.08
Jute Rope	.09	@	.10
Amer. Hemp, 6	.27	@	.29
Java Sisal—			
No. 1 Basis	.10	@	—
No. 2 Basis	.09	@	—
New Zealand Sisal	.10	@	—
Sisal Lath Yarn—			
No. 1	.12	@	.14
No. 2	.10	@	.12
Manila Twine	.23	@	.28

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	05	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.07	@	.18
No. 1 M. F. Book	.06½	@	.07½
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	4.50	@	5.00
Southern Kraft	3.25	@	—
No. 2 Kraft	3.25	@	—
Wood Tag Boards	.04¾	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.07	@	.07¾
White Tissue	.07¼	@	.07½

(Delivered Central Territory)

News, per ton—			
Rolls, contract	53.00	@	—
Sheets	58.00	@	—
Boards, per ton—			
Plain Chip	30.00	@	35.00
Solid News	32.50	@	37.50
Manila Lined Chip	40.00	@	45.00
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.80	@	1.85
No. 1 Hard White	1.65	@	1.70
No. 1 Soft White	1.50	@	1.55
Ledger & Writings	.65	@	.70
Solid Books	.60	@	.65
Blanks	1.20	@	1.25
Krafts	1.00	@	1.10
New Kraft Cuts	1.30	@	1.40
Manila Env. Cuts	1.50	@	1.60
Ex. No. 1 Manila	1.10	@	1.20
Print Manila	.40	@	.45
Overissue News	.45	@	.50
Old Newspapers—			
No. 1	.40	@	.45
No. 2	.30	@	.35
Mixed Papers—			
No. 1	.30	@	.35
No. 2	.20	@	.25
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.04	@	.40
Ledgers	.06	@	.40
Writings—			
Superfine	.10	@	.18
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Fine No. 3	.05½	@	.18
Book, M. F.	.04¾	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.06	@	.09
Manila Sul., No. 1	.03	@	.05
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03¾	@	.04¼
Southern Kraft No. 1	—	@	.04
Southern Kraft No. 2	—	@	.03¾
Common Bogus	.03	@	.04

(Delivered Philadelphia)

News Print Rolls	58.00	@	62.00
Straw Board	50.00	@	—
News Board	30.00	@	32.00
Chip Board	25.00	@	27.50
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	73.00	@	75.00
No. 2, per ton	63.00	@	65.00
Carload lots	62.00	@	67.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1.	.05½	@	.06
New White, No. 2.	.04	@	.04½
Light Silesias	.04	@	.04½
Silesias, No. 1	.04	@	.04½
Black Silesias, soft.	.04	@	—
New Unbleached	.05½	@	.06
Washable, No. 1	.02	@	.02½
Blue Overall	.04	@	.04½
Cottons—According to grades—			
Washable, No. 2	.01½	@	.02
New Blue	.01¾	@	.02
Fancy	.02	@	—
New Black Soft	.02	@	.03
New Light Seconds	.01¾	@	.02
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O.D.	.04½	@	.05
No. 2 Mixed	.03½	@	.04
Corduroy	.02½	@	.03
New Canvas	.06½	@	.07
New Black Mixed.	.02½	@	.03

Domestic Rags (Old)

White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.50
M. G.	3.50	@	4.00
Thirds and Blues—			
Miscellaneous	1.00	@	1.25
Repacked	1.50	@	1.75
Black Stockings (Export)	3.00	@	3.50
Roofing Stock—			
Foreign No. 1	1.00	@	1.10
Repacked	.70	@	.80

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	—
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White.	2.10	@	2.20
No. 2 Hard White.	1.75		2.10
No. 1 Soft White.	1.50	@	1.70
No. 2 Soft White.	1.40	@	1.50
No. 1 Mixed.	.45	@	.55
No. 2 Mixed.	.40	@	.50
Solid Ledger Stock.	1.20	@	1.30
Writing Paper.	.60	@	.75
No. 1 Books, heavy.	.60	@	—
No. 2 Books, light.	Nominal		
No. 1 New Manila.	1.25	@	1.50
No. 1 Old Manila.	1.00	@	1.25
Print Manila.	.45	@	—
Container Manila.	.35	@	.40
Old Kraft.	.90	@	1.00
Common Paper.	.20	@	—
No. 1 Mixed Paper.	.15	@	.25
Straw Board, Chip.	.25	@	.35
Binders Board, Chip.	.25	@	.35
Corrugated Board.	.25	@	.35
Overissue News.	.40	@	.50
Old Newspaper.	.30	@	.35

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.05½	@	.11½
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04½	@	.05½
No. 2 Kraft	.03¼	@	.03½

(F. o. b. Boston)

Southern Kraft	.03¼	@	.03½

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus	.02	@	.02¾

(Delivered New England points)

News Print, rolls	—	@	52.50
Straw Board, rolls	.009	—	@35.00
Straw Board in Sheets, basis 35s to 70s	—	@	40.00
Filled News Board	25.00	@	30.00
Chip Board	—	@	25.00
Chip Board (Creasing)	25.00	@	27.50
Single Manila Lined Chip	—	@	35.00
Single White, Patent Coated News Board—			
Bender	45.00	@	55.00
Wood Pulp Board	70.00	@	75.00
Binder Boards	62.00	@	75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.75	@	3.50
No. 2 Hard White	2.25	@	2.50
No. 1 Soft White	1.50	@	1.75
No. 2 Mixed	.50	@	.55
No. 1 Mixed	.75	@	.85
Solid Ledger Books	1.50	@	1.75
Overissue Ledger Stock	1.35	@	1.60
Mixed Ledgers	1.15	@	1.30
No. 1 Books, heavy	.65	@	.75
No. 1 Books, light	—	@	.45
Crumpled Stitchless Book Stock	1.00	@	1.25
Manila Env. Cuttings	1.85	@	2.00
No. 1 Old Manila	.80	@	.90
White Blank News	1.20	@	1.30
Kraft No. 1	.75	@	.85
Manila	.80	@	.90
No. 1 Mixed Paper	.15	@	.17½
Print Manila	.35	@	.40
Overissue News	.35	@	.40
Old Newspapers	.25	@	.30
Box Board, Chip	.17½	@	.20
Corrugated Boxes	.22½	@	.27½
Screening Wrappers	.25	@	.32½

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	1.15	@	1.25
Domestic	.80	@	.85
Manila Rope—			
Foreign	1.25	@	1.50
Domestic	1.50	@	1.75
Transmission Rope	—	@	.90
Mixed String	—	@	.30
Jute Rope	—	@	.85
Jute Carpet Threads	.75	@	.90
Bleachery Burlap	—	@	2.25
Scrap Burlap	.75	@	.85
No. 1 Scrap Burlap	.85	@	.90
Scrap Sisal	.90	@	1.10
Scrap Sisal for shredding	—	@	1.25
Wool Tares, heavy	1.00	@	—
New Burlap Cutting	1.50	@	1.75
Australian Pouches	2.00	@	—
Heavy Baling Bagging	1.50	@	1.60
Paper Mill Bagging	.75	@	.85
Bagging No. 2	—	@	.40
No. 1 Burlap	—	@	3.50

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1.	—	@	.05¼
New White No. 2.	—	@	.04
Silesias No. 1	.04½	@	.05
New Black Silesias	.02½	@	.02¾
New Unbleached	.05½	@	—
Fancy	—	@	.03¾
Washable	—	@	.03½
Cottons—According to grades—			
Blue Overalls	—	@	.05
New Black, soft	.04	@	.04¼
Khaki Cuttings	.03	@	.03½
O. D. Khaki	.04½	@	.05
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	—	@	4.00
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	—	@	1.50
Thirds and Blues—			
Repacked	—	@	.85
Miscellaneous	1.00	@	1.20
Black Stockings	3.25	@	3.50
Roofing Stock—			
No. 1	.53	@	.58
No. 2	.48	@	.53
No. 3	.43	@	.48

Foreign Rags
(F. o. b. Boston)

Dark Cottons	—	@	.60
New No. 1 White Shirt Cuttings	5.00	@	5.50
Dutch Blues	—	@	1.80
New Checks & Blues	4.00	@	4.50
Old Fustians	1.10	@	1.15
Old Linsey Garments	.70	@	—

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¼	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.10¾	@	
No. 2 Colored	.09	@	.10½
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (Carloads)	6.65	@	—
No. 3 M. F. (Carloads)	6.20	@	—
No. 1 S. C. (carloads)	7.15	@	—
No. 3 S. C. (carloads)	6.65	@	—
No. 4 S. C. (carloads)	5.70	@	—
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.50	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.60	@	—
White Wrap	5.10	@	—
"B" Manila	5.00	@	—
No. 1 Manila	5.60	@	—
Fiber	5.60	@	—
Kraft, M. F.	5.98	@	—
Kraft No. 2	5.60	@	—

(Delivered Toronto)

News, per ton—			
Rolls (contract)	56.50	@	57.00
Sheets	61.50	@	—

Pulp
(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	45.00	@	—
Sulphite, news grade	40.00	@	—
Sulphite, bleached	58.00	@	65.00
Sulphate	55.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.50	@	—
Soft White	2.25	@	—
White Blk. News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	—
Light and Crumpled Book Stock.	.80	@	—
Ledgers and Writings	1.00	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	.65	@	—
Kraft	1.75	@	—
News and Scrap—			
Strictly Overissue	.50	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¼

Carbon Blacks, in present day papers, must meet requirements that would have been incredible a few years ago. Successful Blacks must possess the highest degree of color strength and miscibility. United Carbon Company's Dixie & Kosmos Paris Blacks excel in these properties and are known too, for their uniformity. The stringent conditions of their manufacture and the careful tests they are submitted to are your assurance that they can be relied upon with confidence.

KOSMOS BRAND

KOSMOS AND DIXIE PARIS BLACKS FOR HIGHEST QUALITY AND UNIFORMITY

DIXIE BRAND

UNITED CARBON COMPANY

CHARLESTON WEST VIRGINIA

New York, 230 Park Avenue • Chicago, 844 Rush Street • Akron, 308 Akron Savings & Loan Bldg. • Cleveland, 809 Rockefeller Bldg. • San Francisco, 274 Brannan Street • Los Angeles, 2030 Bay Street • Louisville, Banner Warehouse Bldg. • Toronto, Canadian Industries, Ltd. • Outside North America: London, Chance & Hunt, Ltd. • Manchester, Anchor Chemical Company, Ltd.

PAPER TRADE JOURNAL

ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

SIXTIETH YEAR

Published Every Thursday by the

LOCKWOOD TRADE JOURNAL CO., Inc.

GEO. S. MACDONALD, President: J. BANNINGA, Sec.-Treas.

Published at 34 No. Crystal St., East Stroudsburg, Pa.

Executive and Editorial Offices: 10 East 39th Street, New York

Chicago Office: 123 West Madison St.

TABLE OF CONTENTS

Copyright, 1932, by the Lockwood Trade Journal Co., Inc.

New Sulphite Mill for British Columbia..... 9
Paper Demand Irregular in Philadelphia..... 10
Paper Trade Association to Meet..... 10
Scott Paper Co. Advertising 10
Boston Market Fairly Active..... 11
U. S. Gypsum Starts Bag Plant..... 11
Latex Fiber Industries Formed..... 11
New Birkner Adressbuch Out..... 11
Ontario Mills Moderately Active..... 12
Great Lakes Operating Profit..... 12
Chicago Paper Market Quiet..... 13
Salesmen's Association Activities..... 13
New Uses for Containers..... 13
Southeastern Division to Meet..... 13
Marathon Mills Speeding Production..... 14
Allis-Chalmers Position Improved..... 14
Kemberly-Clark Report 14
Waste Hemlock Bark Utilization..... 15
Montague Mill Shut Down..... 15
New York Trade Jottings..... 16
Power Plant Section 17
Brown Paper Mill Co. Resumes..... 22
The Ramsey-Pulvis Clutch..... 22
Editorial 24
TAPPI Committee Chairman Appointed..... 25
TAPPI Notes 25
United Paperboard Receivers..... 25
Strathmore Papermakers' Club Meets..... 25
Technical Section
Pulp and Paper Industry Literature Review... 27
A New Sulphur Burner..... 31
Flobility and Springback of Pulp and Board.. 35
Ink Resistance of Printing Papers..... 39
Construction News 43
Indianapolis Demand Slow..... 44
Paper Testing and Chemistry..... 44
Imports of Paper and Paper Stock..... 46
New York Market Review 50
Miscellaneous Markets 52
Market Quotations 52

THE PAPER TRADE JOURNAL is indexed in Industrial Arts Index

Want and For Sale Advertisements, 59, 60, 61

Air Washed Clay—Ground Clay—Crude Clay
Capacity 100,000 tons per year.

R. T. VANDERBILT CO.

230 Park Ave.
New York

RAYOX — (PURE TITANIUM DIOXIDE)

You will find that a small percentage of Rayox added to your clay will give that increased opacity that you have been looking for.

The white pigment of highest known opacity value. Technically it is the whitest and brightest of all white pigments.

It has the highest hiding power and tinting strength and the greatest resistance to chemical change of any known white opaque pigment.

Rayox may also be successfully used to increase the finish and opacity of your coating solution.